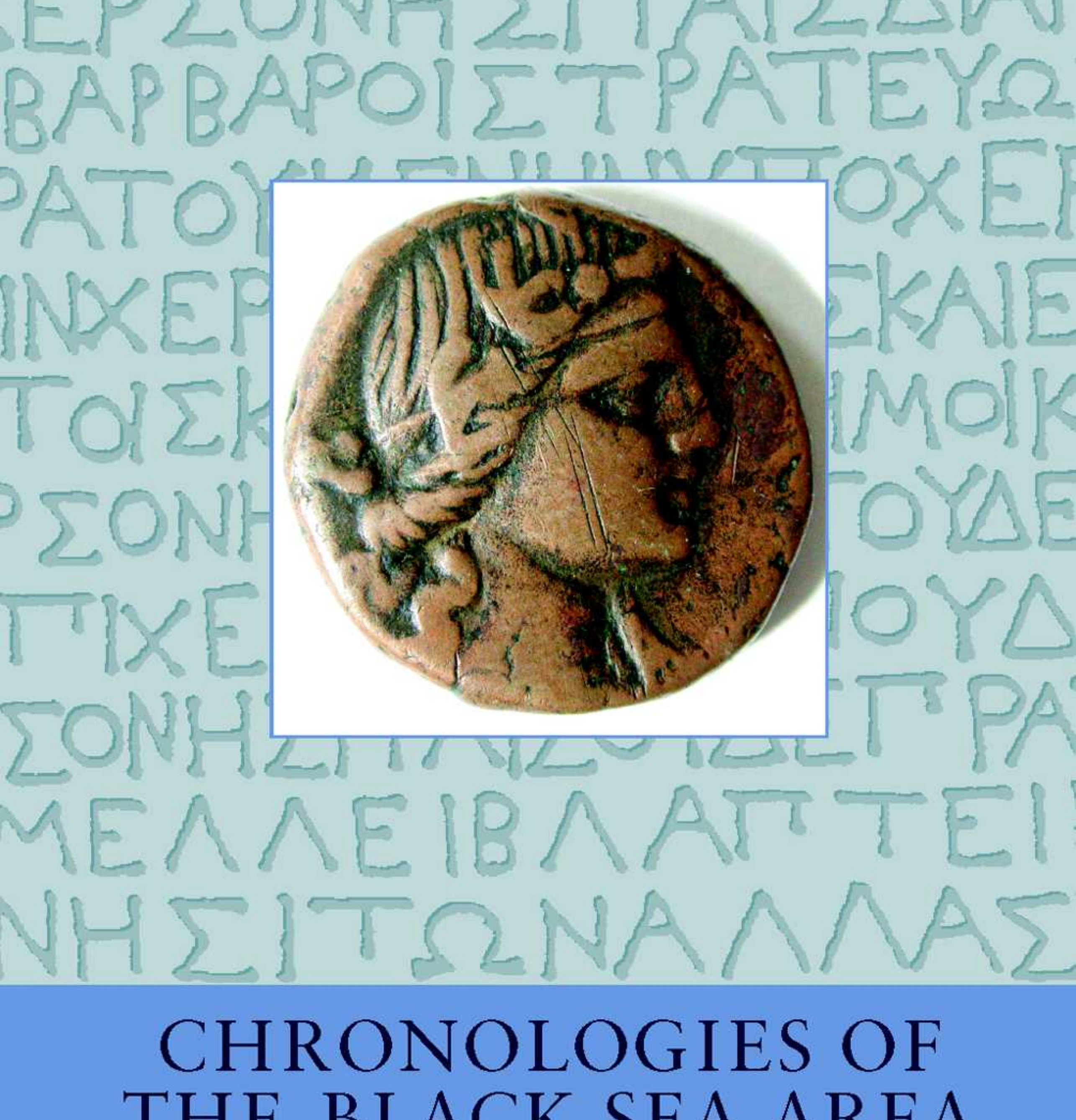


CHRONOLOGIES OF THE BLACK SEA AREA

IN THE PERIOD c. 400–100 BC

Edited by

Vladimir Stolba and Lise Hannestad

BLACK SEA STUDIES

3

DANISH NATIONAL RESEARCH FOUNDATION'S
CENTRE FOR BLACK SEA STUDIES

CHRONOLOGIES OF THE BLACK SEA AREA IN THE PERIOD c. 400-100 BC

Edited by
Vladimir F. Stolba and Lise Hannestad

AARHUS UNIVERSITY PRESS

CHRONOLOGIES OF THE BLACK SEA AREA IN THE PERIOD c. 400–100 BC

Cover design by Lotte Bruun Rasmussen
Bosporan bronze coin with a young Dionysos wearing ivy-wreath.
First half of the first century BC
(The Royal Collection of Coins and Medals. Danish National Museum,
Sylloge Nummorum Graecorum vol. 18, no. 10)
Photo: Jakob Munk Højte

ISBN 87 7934 924 2

AARHUS UNIVERSITY PRESS
Langelandsgade 177
DK-8200 Aarhus N

73 Lime Walk
Headington, Oxford OX2 7AD

Box 511
Oakville, CT 06779

www.unipress.au.dk



Danish National Research Foundation's
Centre for Black Sea Studies
Building 328
University of Aarhus
DK-8000 Århus C
www.pontos.dk

Contents

Introduction

Chronology may not always be considered the most exciting subject by archaeologists and ancient historians, but its importance can hardly be overestimated, and recent years have certainly witnessed a renewed interest in chronological problems. When the Danish Research Foundation's Centre for Black Sea Studies was established in February 2002, it was decided that the Centre's first international conference should have as its theme the chronology of the Black Sea area, with special focus on the period from 400 to 100 BC, a period which has indeed had its share of chronological debates and revisions. Thus the destruction of Olynthos in 348 BC as a chronological fixed point has been challenged; the tentative chronology proposed by H. Thompson for Athenian Hellenistic pottery has in recent years been corrected by S. Rotroff; and the chronologies of Hellenistic transport amphoras originating in Black Sea workshops such as Herakleia Pontike, Sinope and Chersonesos, as well as the precise datings of a number of local coinages, are still hotly debated. It goes without saying that the chronological framework established for the Greek colonies on the shores of the Black Sea is also of crucial importance for the dating of the nomad cultures of the steppes during the first millennium BC.

The purpose of the conference was a closer examination of the elements on which the chronologies used in Black Sea archaeology and history in the relevant period are built – and the overall chronology, if such exists.

The present volume presents 13 contributions from the conference. Broadly speaking, they can be divided into papers presenting the chronological basis on which we currently operate, and papers on specific case studies, where the dating of a site, a group of sites or deposits, and the reasons for the suggested dates are presented. Central issues are coins, amphora stamps and imported fine-ware pottery, together with the written source material.

An important objective of the conference was to bring together researchers working in different disciplines and different fields, i.e. both researchers whose focal point is the Mediterranean, and colleagues whose expertise is concentrated on the Black Sea area itself.

The volume opens with Rotroff's contribution on the chronology of Hellenistic pottery from the Athenian agora. She draws particular attention to

the fact that this chronology has been built up over a long period and has undergone a number of revisions; that there is a danger of circular argumentation, such as the use of the new Athenian coinage, the introduction of which is in itself based on pottery chronology. One cannot but agree that at the moment the Attic chronology provides one example of how a model of diachronic development can be built and maintained, and that Athens currently provides the finest-grained chronology existing for pottery of the 4th to the 1st centuries BC.

Lawall's paper covers much of the same ground, but from a different perspective, and with emphasis on the often overlooked fact that creating chronologies involves negotiating a web of relationships between groups of artefacts. One might consider such efforts as hopelessly circular and subjective. Lawall, however, adopts a more positive approach, offering the reader a brief "state of the art" as to the late Classical and Hellenistic amphora stamps in the Aegean, and goes on to present the present situation as to the chronology of the most important of these, i.e. the Thasian.

Monachov uses a different perspective than the eponym stamps to examine the chronology of Rhodian amphoras by tracing the development of the shape of the Rhodian amphora through time.

The following contribution by Conovici focuses less on the chronology of one or more amphora productions than on fluctuations in the import patterns of the three most securely dated amphora production centres, i.e. Thasos, Sinope, and Rhodos, in some of the cities on the west coast of the Black Sea, in particular Istros, Kallatis, and Tomis. Despite differences in the distribution patterns, coincidences in the peaks reached by the imports to the west Pontic cities, especially Kallatis, may also point to the present chronologies of these three production centres as being correct, at least when considered in decades instead of years.

Callatay's contribution takes us to a different field, i.e. that of numismatics. If one sometimes wonders whether a chronological precision within less than a five-year horizon is worthwhile, Callatay's contribution on the chronology of the Mithridatic bronze coins offers a case for how much can actually be at stake. Callatay proposes considerable changes to the traditionally accepted chronology for both the Mithridatic and Bosporan issues, which gave rise to the historical interpretation that Mithridates Eupator began as a friendly ally of the Bosporan cities and later acted very brutally towards these cities. Callatay offers a very different scenario.

Højte re-examines the dating of the inscription from Chersonesos with Pharnakes' decree, carefully reviewing the evidence, or rather lack of evidence, for the date traditionally accepted as to this decree. He concludes that at present no definite proof exists for the two proposed dates, but that the Seleucid calendar is the most probable for determining the date of the inscription, in which case the history of Chersonesos during the first half of the second century BC needs to be reconsidered.

The Pharnakes decree and its date is also at the centre of Stolba's contribution, which presents a new chronology for Chersonesean amphora stamps. Having reconsidered the anchoring points of the local stamp chronology, he proposes a long break in the production during the third century BC.

The contributions of Hannestad, Zolotarev, Bylkova, Krapivina, Mordvinceva, and Zajcev present case studies from Olbia and Chersonesos, their *chorai* and the inner Crimea, discussing the means by which a deposit, a site, or a cluster of sites have been dated.

In her contribution Hannestad re-examines the elements on which the dating of the so-called Monumental Building U6 have been built up, and demonstrates how the end date c. 270 BC is based on Kac's chronology for Chersonesean amphoras, whereas the date of the erection relies on Rotroff's dating of the black-glazed Athenian pottery of the early Hellenistic period, together with Stolba's chronology for Chersonesean bronze coins.

Zolotarev presents a recently excavated deposit found in Chersonesos, which offers us an impression of the affluence which characterized the city in the third century BC.

Krapivina carefully examines all the evidence that has so far been brought to light concerning the city of Olbia in the Late Hellenistic period, which is one of the least known periods in the history of the city. The material presented includes a recently found inscription (2002), which provides evidence for a *strategos* of Mithridates Eupator and his governor-general in Olbia building a defensive wall in the year 220 of the Pontic era (78/77 BC). The available evidence also clearly confirms that by the middle of the 1st century BC, life ceased to exist in the city for several decades, due to the invasion of the Getae.

Archaeological field work, particularly in the 1980s and 1990s, has enabled Valeria Bylkova to draw up the settlement development on the lower Dnieper in the period from c. 400-100 BC. Amphora and tile stamps together with imported pottery are the most important elements for establishing an overall chronology for changes in settlement patterns in both the Greek and the Scythian settlements.

During the conference the revised chronology of Rhodian amphoras recently proposed by G. Finkielsztejn was an often-discussed subject, and the participants were convinced of its validity. Perhaps Zajcev's contribution on the chronology of Scythian Neapolis in the second century BC most clearly shows how this chronology fits in with evidence from a combination of the stratigraphy of a site and the written evidence concerning this monument.

The volume ends with a presentation by Mordvinceva of the chronology of the richest Sarmatian barrow – Nogajčik – in the Crimea. The barrow contained a female burial with a large number of luxury grave goods. Among the pieces are a "millefiori" (mosaic) glass cup that provides a *terminus post quem* to the first century BC, and a fusiform unguentarium that suggests that the burial can hardly be later than the middle of the first century BC.

It is our hope that the contributions in this volume will prove useful for reopening discussions on dates and chronologies which may long have been taken for granted, and ultimately contribute to establishing a firmer chronological framework for the Black Sea region in the last centuries before our era.

Lise Hannestad *Vladimir Stolba*
Aarhus, August 2004

Four Centuries of Athenian Pottery

Susan I. Rotroff

INTRODUCTION

The four centuries of ceramic development that are the topic of this paper (400 BC to the beginning of the Common Era) fall into no less than three of the standard chronological divisions of antiquity: the Classical, the Hellenistic, and the Roman periods. These have traditionally been the preserves of different scholars, and it is for this reason that the ceramic chronology is rooted in three different works of scholarship: for the fourth century, Brian Sparkes' and Lucy Talcott's analysis, published in 1970 in volume XII of the *Agora* series; for the ensuing Hellenistic period, Homer Thompson's 1934 *Hesperia* article, "Two Centuries of Hellenistic Pottery"; and, for the 1st century, Henry Robinson's 1959 publication of Group F, in *Agora* V.[1] Not surprisingly, the points at which these three great fabrics join are not seamless; there are gaps and overlaps that would not have been there had the weaving been in the hands of a single craftsman. Furthermore, significant new evidence has come to light since the publication of these authoritative studies, now making it possible to refine some of their conclusions. I would like to contribute below some thoughts about the methodology used in the construction of the Agora chronology, along with a review of the chronology itself as I now see it, in light of the most recent discoveries (both archaeological and intellectual) in the field of Greek ceramics. Overstepping the boundaries set by the organizers of the conference, I carry my summary down to the end of the 1st century because, as I will make clear below, the Hellenistic ceramic tradition survived at least that long.

EVIDENCE FOR THE AGORA CHRONOLOGY

The Agora ceramic chronology rests on two main props: fixed chronological points, i.e. deposits that contain a large amount of ordinary Attic pottery, which also can be associated with a dated historical event; and "closed" deposits, stratigraphically isolated groups of material with a limited range of date, most commonly the contents of wells and cisterns. A third form of evidence – material from physically superimposed layers – has traditionally been cru-

cial in the formation of ceramic chronologies. Few such sequences, however, have been recovered at the Agora and consequently this kind of evidence has played almost no part in the development of the Agora chronology.

Historical fixed points

In evaluating the Agora chronology, an obvious question to ask is, how sturdy are these two props? First let us consider the historical anchors. There are only a handful: the destruction of Olynthos; the foundation of Alexandria; the occupation of Koroni; the destruction of Corinth; and finally, the attack of Sulla on the city of Athens. We might add the purification pit on Rheneia for, although it falls before our period, it provides the only mooring until we reach the middle of the 4th century. The date emerges from Thucydides' account (3.104) of the purification of the sanctuary at Delos undertaken by the Athenians in 426/425. The association of the pit – rich in both figured and black gloss pottery as well as much earlier material – with the purification has not been challenged, but the presence of some indubitably later material urges that it be used with caution.[2]

The large collection of pottery at Olynthos, destroyed by Philip II in 348, is the linchpin of 4th century ceramic chronology.[3] The presence of later 4th century coins on the site, and the fact that, according to Diodoros Sikulos (19.52.2), much of the population of the new foundation at Kassandreia in 316 was drawn from among the Olynthians, have prompted some scholars to challenge 348 as a reliable *terminus ante quem* for pottery from this site, and to suggest that the mass of ceramics there should be dated well down in the 4th century, rather than in its second quarter.[4] It is certainly true that the city was not completely deserted after 348, but Nicholas Cahill's recent analysis of the distribution of the post-348 coins demonstrates that most of the rehabitation was in the northwestern section of the North Hill.[5] In this part of the excavation, Robinson contented himself for the most part with tracing walls; few floors were excavated, and almost none of the published pottery comes from this part of the site. We can still, I believe, rely on the bulk of the pottery from the remainder of the site for a view into the mid-4th century cupboard.[6] Just how much of that pottery is Attic, however, remains open to question. David Robinson thought that most of the black and plain wares and lamps were of local manufacture,[7] while Peter Corbett and Lucy Talcott felt confident that much of the fine pottery was Attic.[8] The issue remains unresolved. If the pottery is not Attic, we may well ask how useful it is for framing an Attic chronology, for it is quite likely that the products of different centers of production, even if heavily Atticizing in character, would follow somewhat different developmental paths.

Alexandria provides a likely *terminus post quem* of 331, the date of its foundation, for deposits excavated there – although we cannot affirm that no one was living there earlier. Even if we discard the notion of earlier settlers or

visitors, it is difficult to evaluate the pottery found in the earliest cemeteries. We can say that it was buried after 331, but we cannot tell how long after. Nor can we be certain that any single object was not an heirloom brought from abroad, decades old at the time of its inhumation. It is problematical as well that much of this material was excavated early in the 20th century and is not published to a standard that makes it easy to use for the investigation of fine chronological questions. Fortunately, Alexandrian archaeology is undergoing a revival, and new excavations have brought to light more material from the early years of the city. Even so, we are again plagued by the question of the origin of the pottery: is it Attic, or not? Some scholars are convinced that much of it is; others have expressed doubts.[9] In any event, the site, no matter how meticulously excavated, is unlikely to be as useful as contained sites with a *terminus ante quem*.

Such a site is the Ptolemaic encampment on the headland at Koroni, on the east coast of Attica, excavated in a short, three-week season in 1960.[10] The modest ambition of the project was to determine the date and nature of ruins long visible on the surface. The results, however, were an archaeological bombshell. Coins found on the site enabled the excavators to date its occupation to the reign of Ptolemy II, and furthermore to associate it with the presence of Ptolemaic troops in Attica at the time of the Chremonidean War, between 267 and 262/261 BC. This conclusion led to another and far more wide-reaching one: that the ceramic chronology outlined by Thompson for the first sixty years of the Hellenistic period was too high by about a generation. After a series of initial challenges,[11] the dating of the site has achieved widespread acceptance, and Virginia Grace's 1974 downward revision of her Rhodian amphora chronology on the basis of evidence unrelated to Koroni[12] lent important support to the new, lower chronology. It did not, however, resolve the discrepancy altogether, for it gave a date in the late 270's for the amphoras,[13] which had therefore to be regarded as serving a secondary use as water containers in the latter half of the 260's. Now, however, Gerald Finkielsztejn's further revision of the Rhodian chronology places the three eponyms documented at Koroni – Chrysostratos, Agrios, and Antileon – in the years 267-265.[14] This solves the problem neatly and allows us to imagine that the amphoras were brought to the site fresh from the vintner when the troops occupied the site. Although it has been suggested that there may have been some earlier habitation at Koroni,[15] nothing has happened in the forty and more years since the excavation to undermine c. 261 as a terminal date.

The next fixed point, the destruction of Corinth by Roman soldiers under Mummius in 146, is of only limited usefulness for the Attic chronology. First of all, evidence has been growing over the years that there was substantial squatter activity on the site during the 100 years between its destruction and the establishment of the Roman colony. This is most clearly documented by stamped amphora handles, but imported fine ceramics of the intervening period have been identified as well.[16] Most of the Mummian destruction debris

is in secondary deposits, representing clean-up at the time of resettlement a century later, in the course of which later material may have entered the archaeological record. And, finally, the Attic pottery from Corinth remains largely unpublished, further limiting the utility of the site for the purposes of Attic chronology-building. Potentially more useful for the mid-2nd century is the construction fill of the Stoa of Attalos, which, if the foot-high inscription on its facade means anything, must have been constructed during the reign of Attalos II, from 159 to 138. Here, however, we have quite a wide range for *a terminus ante quem*: the fill could have been dumped within the foundations during any one of the twenty-one years of Attalos' reign. In any event, it has never received systematic study and remains unpublished; it is clear, however, that, like many building fills, it covers a very long range of date and is largely composed of very fragmentary material.

Our final fixed point is the sack of Athens in 86 BC by the Roman general Sulla. Several deposits may be associated with this event on the basis of the coins and amphora handles that they contain. The coins are the final issue of the Fulminating Zeus series, marked with Mithradates' star between crescents on the reverse.[17] The Knidian amphoras are those of the latter part of the *duoviri* period, which probably ended in 88 BC. Twenty-three deposits at the Agora contain one or both of these markers, and one has been fully published from elsewhere in the city.[18] None, however, is lying where it fell on the fateful first of March in 86 BC. Like the destruction debris at Corinth, these are secondary deposits, cleared away when the area in question was rebuilt or renovated, often decades after the event. Hence, most of these deposits contain some identifiably later material – be it a coin, an amphora handle, or a fragment of Roman sigillata – and one must remain alive to the possibility that some contain material that is not identifiably later, but is later nonetheless.

"Closed" deposits

No one of the fixed points discussed above – except perhaps Koroni – presents a perfect case, but they are nonetheless indispensable landmarks along the course of Attic ceramic development. The next challenge is to chart the unknown territory between them. For the Agora chronology, these gaps have been elucidated by creating what amount to a secondary series of fixed points, in the form of the so-called "closed" deposits. This approach was a bold innovation by Homer Thompson,[19] the first scholar, as far as I am aware, to use deposits other than graves in this manner. The fine tuning of the Agora chronology of the 4th to the 1st century depends on some 300 "closed" deposits of this sort. Valuable as they are, however, they present significant difficulties.

First: How truly "closed" are these deposits? None is protected by an impervious sealing, such as a cement floor – although some approach that situation, lying at the bottoms of wells, beneath sterile layers of mud or col-

lapsed bedrock. In almost all cases, however, it would have been possible for later objects to enter the cistern or well some time after it was originally filled with debris, or to have sifted down to lower levels from higher ones – in the course of time or during excavation – or to have fallen in from the surface at the time of excavation. Connecting tunnels in cistern systems also offer avenues for contamination. In addition, many of these deposits presented difficult excavation problems: in some cases, partial collapse confounded the contents; danger of collapse made stratigraphic excavation difficult or impossible in others. In cisterns, particularly, it was not easy to sort out the typically cone-shaped layers of accumulation when digging underground, in the dark and in the damp. Direct observation of excavation in progress was difficult, and workmen were often left on their own for long stretches as the cistern was cleared. And of course the possibilities for intrusion in the construction fill of a dirt-floored building are legion. A prime difficulty in the use of this evidence, then, is distinguishing between the original deposit and intrusions of later date. A single fragment some hundreds of years later than the bulk of the material can easily be dismissed; material seemingly only a decade or a generation later than the whole poses a more challenging question. Is it an intrusion, or is it evidence that the deposit was closed later, and that other material within that deposit may also date later? Paradoxically, this problem becomes more acute as the chronology becomes finer.

A closely related problem is the estimation of the terminal date of the deposit. The first step, of course, is an evaluation of the most closely datable objects: figured pottery in the first fifty years of our span, stamped amphora handles and coins thereafter. These are a godsend, but their utility is nonetheless limited, as Figure 1 illustrates. Over half (58%) of the c. 225 Hellenistic deposits included in *Agora* XXIX contain amphora handles, although it is in

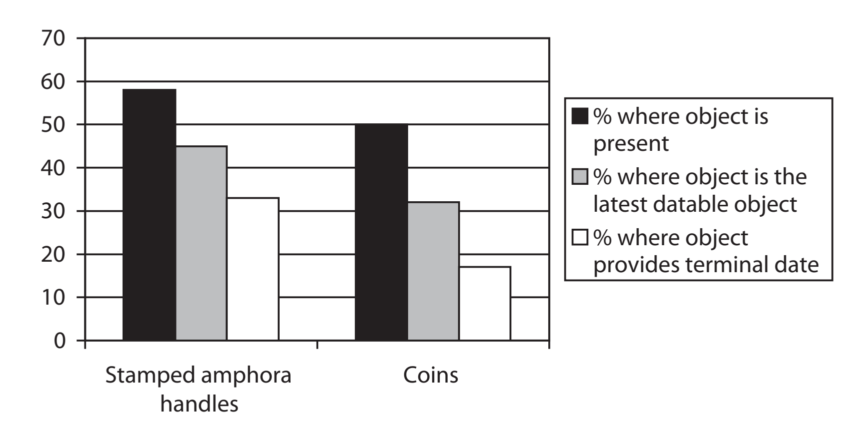


Fig. 1. Percentage of Hellenistic deposits in *Agora* XXIX containing stamped amphora handles or coins.

only 45% of the deposits that an amphora handle is the latest datable object. Even in those cases, other evidence (usually the pottery itself) may indicate that the terminal date must be substantially later. When this is taken into consideration, it turns out that amphora handles are useful in determining the date of deposit in only about one third of the cases. Coins, as it develops, are considerably less useful. Half of the deposits contain coins, largely bronzes, usually badly corroded, and only rarely closely dated. They constitute the latest datable objects in one third of the deposits, but they are instrumental in suggesting a terminal date in only 15% of the cases.

The latest datable object (assuming that we do not reject it as intrusive) tells us only the earliest possible date at which the material could have been discarded. Although the lapse between manufacture and discard is, ultimately, not recoverable, it is essential to scrutinize the state of preservation of the dating object, which may provide some hints. Worn coins must have circulated for some time, and fragmentary and battered objects are likely to be older than whole ones in a given deposit. I have generally assumed ten year lapse after the latest amphora handle – considering that the amphora had to be imported, discarded, smashed to bits, and then thrown away. Complete amphoras must be regarded differently from fragments of handles, but there is ample evidence of long-term reuse of amphoras as storage jars, and we can never assume they were new when discarded.

Occasionally datable objects and other information can be combined to turn one of these deposits into an historically "fixed" point. Such is the case with the debris from abandoned water sources around the Tholos.[20] It contains abundant material of a public nature: fragments of official measures, clay and lead seals, fragments of inscriptions, and rooftiles labeled *demosion*. For this reason it had been conjectured ever since its excavation in 1934 that the debris resulted from some event in the chaotic history of Athens in the late 4th or early 3rd century. A somewhat worn coin of the owl-left issue, which John Kroll now dates beginning in 307,[21] provides a *terminus post quem*, and it seems likely that the damage took place during the brief reign of the tyrant Lachares in 294. The material from these deposits, then, can be placed in the latter years of the 4th century and the earliest years of the 3rd, providing a useful checkpoint between Olynthos and Koroni.

Finally, how homogeneous – in terms of date – can we expect any one deposit to be? The amphoras often cover many decades, and figured pottery in well deposits of the last half of the 5th and first half of the 4th century frequently documents a range of thirty to fifty years, at least for fragments; even wider spans are not unheard-of (see Fig. 2). We can assume, then, that a range of fifty years within a dumped deposit is not unusual – though of course there will be wide variability in the degree of chronological homogeneity.

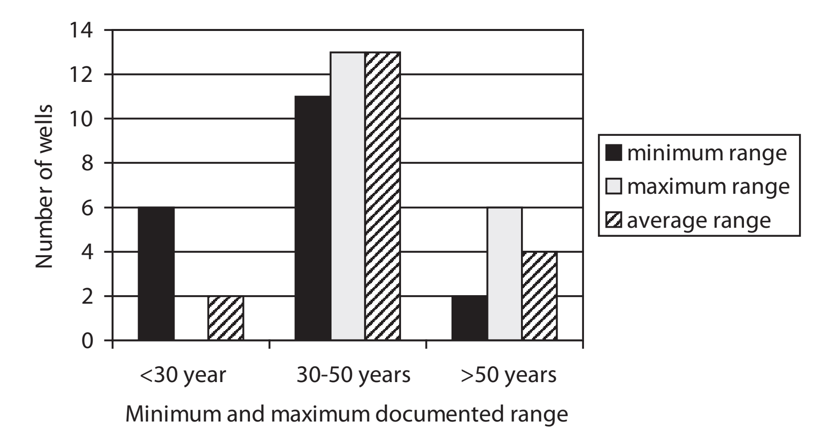


Fig. 2. Range of red-figure in Agora wells containing five or more red-figure fragments (450-350 BC).

Note: absolute ranges cannot be calculated because individual fragments of red-figure are themselves dated within a range (e.g., 410-400, or last quarter of 5th century). Three figures are used here to give a realistic impression of the data. The minimum range is the smallest possible range documented by the fragments. The maximum range is the largest possible range documented by the fragments. The average range for a deposit is the average of the minimum and maximum range figures for that deposit. Data and dates are taken from Moore 1997.

The Komos Cistern

A chronology is like any other structure: once it has been built, it requires maintenance if it is to continue to function effectively; and our chronological evaluation of the deposits must frequently be adjusted to take account of new evidence. The Komos Cistern (deposit M 21:1), excavated by Eugene Vanderpool in 1947, provides a good example of the evolution of scholarly interpretation of a single deposit. Whatever Hellenistic house or workshop it served has left no trace; the cistern itself had collapsed in antiquity, and the resultant hole had been filled with a pottery-rich debris. The physical situation made it impossible to excavate the cistern stratigraphically: instead, a circle something over 1.00 m in diameter was dug through this fill to a depth of 4.00 m and then expanded outwards. Below the pottery-rich fill lay a sterile layer of broken bedrock about 2.00 m thick – the remnants of the collapsed cistern wall – and below it a layer of mud, 40-50 cm thick, that rested on the bottom of the chamber, representing sediment that had accumulated while the cistern was in use. Unfortunately these tidy householders had dropped no significant trash into their water source; the silt contained only a few sherds. (See Fig. 3 for a schematic reconstruction of the excavation situation and the various interpretations that have been proposed).

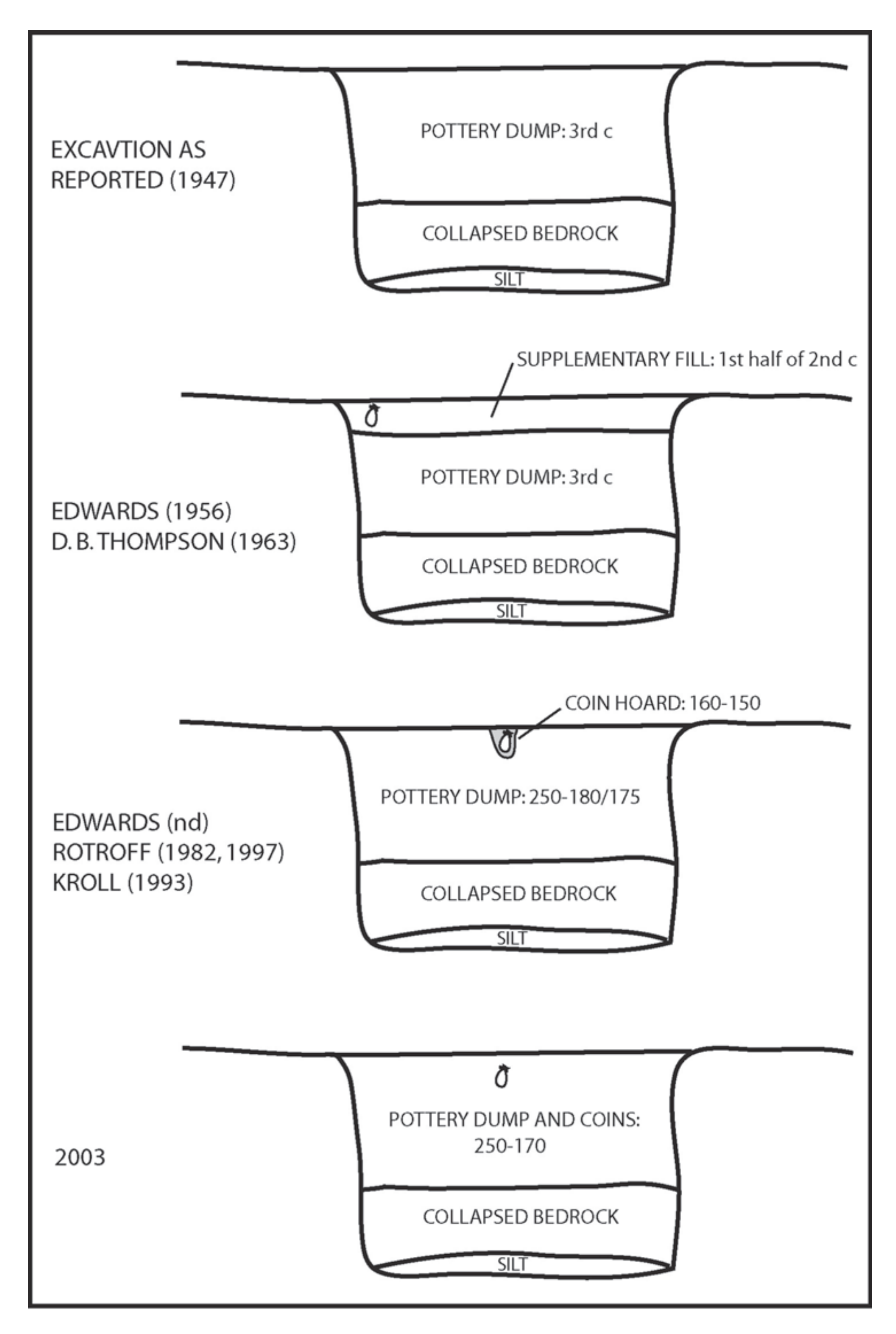


Fig. 3. Schematic representation of the evolving interpretation of the stratigraphy and chronology of the Komos Cistern.

The total of inventoried objects from the Komos Cistern is over 250; in addition, a large amount of uninventoried pottery was retained. This material includes many terracotta figurines and one mold for their manufacture, along with at least seven molds for moldmade bowls, wasters, and kiln furniture, indicating that it is at least in part the refuse from a potter's workshop. Most of the moldmade bowls and molds could be associated with the workshop of Bion, one of the earliest producers of moldmade bowls at Athens, which makes this deposit particularly important for the chronology of this type of object. Consequently, it has been scrutinized with some care, by me, and before me by Roger Edwards.

Vanderpool thought that the pottery-rich debris was a single fill: "because of the way we were forced to dig the cistern, no stratification can be recorded. There probably is none, however," he wrote in the field notebook in 1947. Subsequent study, however, cast doubt on this conclusion. In 1956, Roger Edwards discussed the Komos Cistern in a letter to Dorothy Thompson, responding to a query from her about its date. He suggested a wide range for the material – the whole of the 3rd century – but identified nothing he would date after 200. This conclusion was in line with the dating of the thirty-four stamped amphora handles, as it was then understood. Thompson, however, thought that some of the terracottas were later;[22] to which Edwards replied "if some of your material is a bit later than 200, I would settle for ascribing it to a supplementary fill it wasn't possible to distinguish in digging." As he explains, "It is very usual in cisterns, as I'm sure you appreciate from your own experience, to have a supplementary fill since the original filling inevitably settles," adding parenthetically "architects won't erect buildings on a fill until it has settled for 7 years, I'm told." This reasonable suggestion also had the advantage of accounting for the numismatic evidence, which pointed to a later date as well. While the latest legible Athenian bronze coins from the deposit appeared to date in the 3rd century, there were eight silver coins of Histiaia dating between 196 and 146. Seven of these were found in a concreted clump, suggesting that this was a hoard or a lost purse. The level at which they were found was not recorded, but the eighth appeared on the first day of excavation; the hoard, then, is likely to have been located near the top of the deposit, and it could therefore be assigned to the supplementary filling. This hypothetical supplementary filling went on to become published fact in Thompson's article on the terracottas from the Komos cistern, published in *Hesperia* in 1963. She wrote, "A supplementary filling presumably occurred before the middle of the 2nd century," quoting a 1961 letter from Roger Edwards to that effect.[23]

Edwards, however, was also able to envision another scenario. In an undated typescript[24] that he has been kind enough to share with me, he wrote: "It is not unreasonable to suppose, since the associated house apparently continued in use after the filling [of the cistern] occurred, that the hoard was deposited beneath the floor level for safekeeping by one of the inhabitants

at a much later date and was actually intrusive in the filling." In this case, the hoard need have no impact whatsoever on the chronology of the other material in the deposit.

So the matter stood until the post-Koroni revisions were applied to the amphoras from the Komos Cistern. These indicated a date of c. 186 for the latest Rhodian handle, which names the eponym Kallikratides II. The chronology of Athenian coinage of this period has also been revised, as reported by Kroll in *Agora* XXVI, with new dates based in part on the amphora chronology. On this new reading, the latest of the Athenian coins, representing early issues in the Fulminating Zeus series, date after c. 190.[25]

A date of deposit *post* 186 might seem to solve the problem of the Histiaian coins, which had been dated 196 and 146. But in the estimation of numismatist Malcolm Wallace, who examined them shortly after they were excavated, these particular coins do not fall near the beginning of the series; furthermore, the degree of wear he observed on them suggested to him that the coins were sequestered "considerably after 170, say 160-150."[26] A gap of at least twenty-five years therefore remained between these coins and the next latest datable object. Consequently, in my discussions of the deposit in *Agora* XXII and *Agora* XXIX I adopted Roger Edwards' suggestion that the Histiaian coins constituted an intrusive hoard.[27] Kroll, too, in *Agora* XXVI, regarded them as intrusive.[28]

Now, however, the implications of Finkielsztejn's revised amphora chronology must be considered. As it turns out, if the lower dating is correct, the chronological inconsistencies of the Komos Cistern all but disappear. The new date for the latest Rhodian eponym, Kallikratides II, falls between 175 and 173,[29] not so very much earlier than the proposed 160-150 for deposit of the coins. Remembering that Wallace's estimate of the date was just that – an estimate – we may claim the flexibility to suggest the coins might have been deposited as early as 170 or so. It now looks as though we can discard both of the explanatory scenarios and regard the deposit, lost purse and all, as the result of a single ancient event – just as Vanderpool originally thought.

The Komos Cistern is only a single deposit, though a rich one. In an edifice as elaborate as a ceramic chronology, however, each adjustment has multiple implications. If the Komos Cistern is a little later than we thought, then other deposits with closely similar contents may be a little later too. A simple, wholesale downward shift or stretching of the chronology is unlikely to bring satisfying results; each case needs to be reexamined in the search for a more precise estimate of ancient dates. That type of thoroughgoing revision is a major research task, requiring review of the original data, and hence beyond the scope of most users of the chronology. This inescapable fact fosters a conservatism in the assignment of dates, as people must continue to refer to the published or conventional chronology, even while realizing that it is in need of revision.

A REVIEW OF THE PRESENT STATE OF THE CHRONOLOGY

Given these various adjustments and challenges, what is the present state of the Athenian chronology? Dates for the earliest part of the period under consideration here are strung out between the Rheneia purification deposit and Olynthos. The middle third of that seventy-five-year span – the first quarter of the 4th century – continues to be problematical. It predates the introduction of bronze coinage at Athens, and closely datable stamped amphora handles are virtually absent in Athenian deposits of that date. Dating therefore depends almost entirely on the red-figure pottery recovered from the deposits, which itself presents serious chronological challenges, for 4th century vase painting remains under-studied and insufficiently understood.

The deposit record at the Agora is also poor for this span. A plot of the estimated dates at which the deposits included in *Agora* XII were discarded illustrates the disparity of the evidence for different parts of the period. Although some material found more recently changes the picture, this is the evidence that Sparkes and Talcott relied upon in generating their chronology, and so it has a direct impact on the dates that they published. As Figure 4 shows, deposits discarded at the end of the 5th century or slightly thereafter greatly outnumber deposits laid down in the course of the first half of the 4th century. Even taking into account a natural tendency to choose a round number (400) as a terminal date, it is clear that the amount of evidence diminishes as one progresses into the century. Furthermore, ten of the deposits in this latter period are ritual pyres – small deposits made up mostly of miniature vessels and lacking external evidence for their dating; they can contribute little to the chronology. Finally, most of the remaining deposits are poor in figured pottery. A plot of the number of red-figure pieces per deposit throughout the

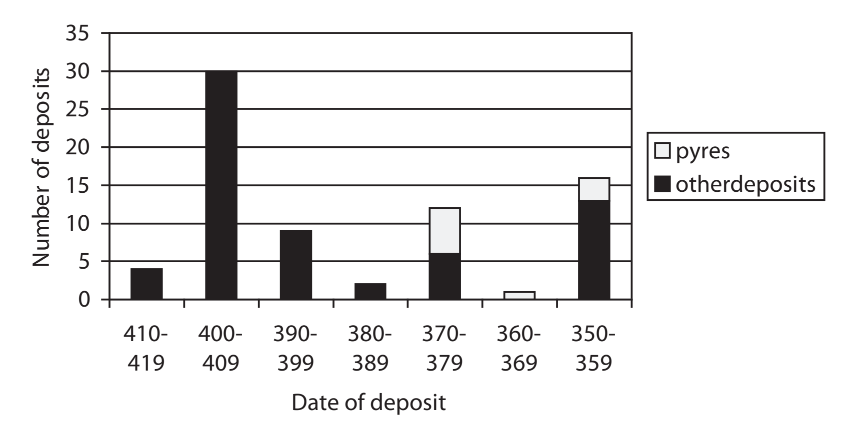


Fig. 4. Distribution over time of deposits of later 5th century to first half of 4th century.

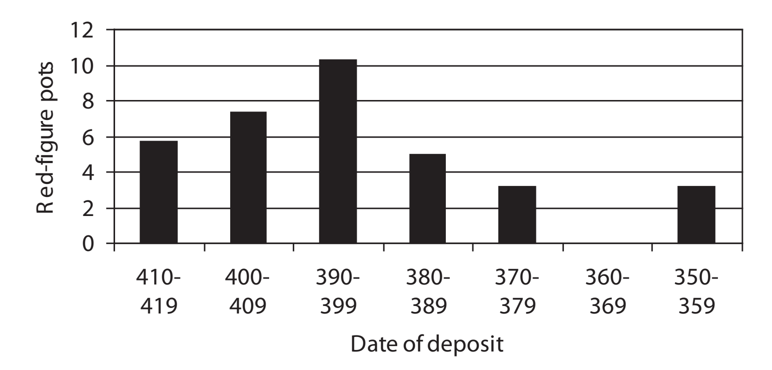


Fig. 5. Average number of red-figure pieces per deposit (excluding ritual pyres).

period shows how the amount of chronological evidence of this sort declines sharply after about 390 (Fig. 5). This leaves us with very little independent evidence upon which to base the dates of deposits in this span.

Things become clearer in the second quarter of the century, when the pottery from Olynthos serves as a reliable comparandum. The eighty-year span between Olynthos and Koroni is also fairly well charted, for deposits of the late 4th and early 3rd century are relatively abundant. The introduction of bronze coinage at Athens around the middle of the 4th century contributes to the closer dating of some of them – although, since the dating of these coins is in part dependent on the pottery chronology, one must beware of circular argumentation. Crucially important to the sequence is the large collection of well-preserved pottery from the destruction debris of phase 3 of Bau Z in the Kerameikos.[30] Although, as far as I am aware, the destruction of the building has not been associated with any documented event, the date of deposit is firmly fixed by numismatic evidence. Bau Z-3 must have been destroyed after c. 320-317, the date of a posthumous silver coin of Alexander the Great found in the debris; and the absence of the owl-left issue among the fifty-three Athenian bronze coins indicates that the deposit was formed before that issue began to be struck, probably in 307/6.[31]

Koroni provides a point of comparison in the late 260's, supported, as I said above, by Finkielsztejn's lowered amphora chronology. Once we leave Koroni behind, however, it is 115 years to our next landmark in the destruction of Corinth. Fortunately, this span is punctuated by two significant ceramic innovations: the moldmade bowl and the long-petal bowl. Absolute dates are difficult to achieve, but deposits that fall between the two fixed points can be placed in relative sequence on the basis of whether or not they contain either of these two ceramic types.

It is within this same span that Attic ceramic chronology is most immediately affected by Finkielsztejn's lower chronology for Rhodian amphoras. To judge from the Agora excavations, Athenians imported Rhodian wine mas-

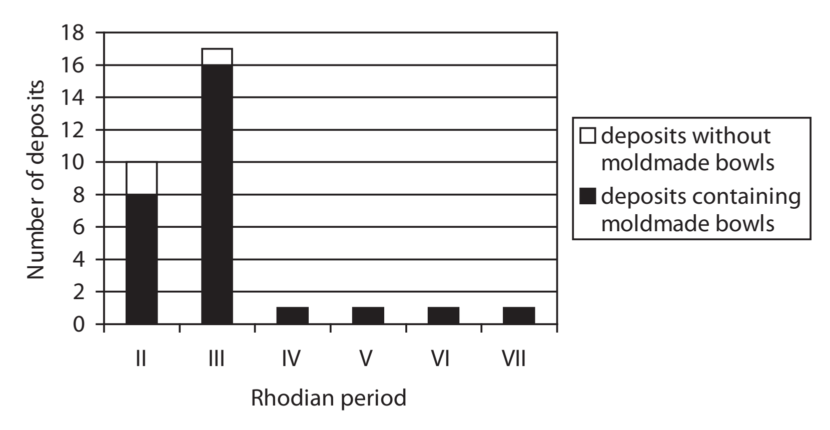


Fig. 6. Deposits in which a Rhodian amphora provides the terminal date.

sively in the second half of the 3rd century and the first third or so of the 2nd century; thereafter, Rhodian amphoras are less frequent in the archaeological record and rarely provide a terminal date for an archaeological context. At issue here are amphoras of periods II and III of the Rhodian sequence: about 239-175 in Grace's estimation; c. 234-161 in Finkielsztejn's chronology. There are thirty-one deposits (about 14% of the whole) among those that I used in writing *Agora* XXIX where a Rhodian amphora handle provides the terminal date; as Figure 6 shows, almost all of them fall within this period. It is here, then, that acceptance of Finkielsztejn's lower chronology requires a downward shift of deposit date. I would like to take this opportunity to examine the consequences of such a shift for the dating of the moldmade bowl, which was introduced during this span.

In *Agora* XXII, I dated the inception of the moldmade bowl after 240 on the basis of its absence from Thompson's Group B.[32] The group is dated by an amphora stamped by the Rhodian fabricant Zenon, made at about the time when months began to be used on Rhodian stamps, an innovation that Virginia Grace placed around 240. The fact that the amphora is nearly complete suggests that it may not have been very old at the time of its discard, so one might conjecture that the group was closed not much later. I noted also that the earliest deposit with significant numbers of bowls was the upper fill of the Altar Well, which contained a Rhodian amphora handle of the eponym Xenostratos, dated by Virginia Grace c. 217. This is a handle, not a complete amphora, so some time would have been required for it to be broken and discarded. I therefore suggested a deposit date of c. 210. Thus the introduction of the moldmade was bracketed, on the basis of archaeological evidence, within the years c. 240 and 210, and I presented an historical argument that 224 was the most likely date. That was the year of the first Ptolemaia, a likely occasion for the import and display of the sort of flashy, Alexandrian silver ware that the moldmade bowls clearly imitate.

Finkielsztejn's new dates push everything down.[33] They place the amphora in Group B within the span 233-220 – perhaps close to c. 226 if, as Grace speculated, the eponym (whose name is entirely missing) is Philokrates.[34] Finkielsztejn places Xenostratos, the latest eponym present in the Altar Well, in 211 or perhaps a little later; a date of deposit near the end of the 3rd century seems called for. Consequently, the introductory date for moldmade bowls is now bracketed between c. 226 and 200. On the face of it, while 224 remains possible as an initial date, the downward shift of the chronology would seem to make it less likely.

Another piece of evidence, however, argues against a downward shift. In his 1934 article, Homer Thompson declared that moldmade bowls did not "occur at all in any part of Cistern B";[35] but when, in the course of preparation of *Agora* XXIX, I reexamined the uninventoried pottery from the deposit, I discovered among it a single fragment of a moldmade bowl, attributable to the workshop of Bion.[36] I am at a loss to explain how Thompson could have overlooked it, and I suppose it might have made its way into the lot by mistake in the intervening years. In my discussion of the group in *Agora* XXIX I dismissed the fragment as intrusive (along with three other significantly later fragments that date in the 2nd century);[37] but if the terminal date of the group is after 226, a single fragment of a moldmade bowl is unexceptional, and I am now inclined to believe it is part of the original deposit. I can also point to another deposit dated by the eponym Philokrates (P 10:2) that contains fragments of three moldmade bowls.

A review of the earliest contexts for moldmade bowls in the Agora, using Finkielsztejn's amphora dates, reveals eight deposits in which the latest amphora dates before 200, and where no other evidence is present to suggest a later date of deposit. First comes Group B, with its single fragment; two more deposits are probably close to it in date (N 21:9, P 10:2), with amphoras of Period IIa (which ends, according to Finkielsztejn, in 220). The other five deposits[38] contain amphoras of periods IIb or c (for Finkielsztejn, 219-199); with the exception of the Altar Well, none contains more than a few fragments of moldmade bowls. Moldmade bowls are a small but consistent presence in deposits with amphoras dating in the subsequent periods IIIa and IIIb (to which Finkielsztejn assigns the years c. 198-182).[39] Numbers then begin to grow, and moldmade bowls are always very numerous in deposits that have as their latest object amphora handles that Finkielsztejn assigns to periods IIId and e, dated by him to the span 175-161.[40] This suggests that, whether the precise date of their introduction is 224 or a decade later, moldmade bowls tend to be scarce in the archaeological record before the beginning of the 2nd century, and that they do not begin to become a substantial part of the archaeological record until as late as c. 180. It must always be kept in mind, though, that the nature of a deposit – whether domestic or industrial waste, or a potter's dump – must also have an impact upon whether or not it contains substantial numbers of these elegant drinking vessels.

But we are now approaching another difficult question: the date of the introduction of the long-petal bowl, distinguished by its severe scheme of tall, ribless petals. The bowls were being made in considerable numbers at Corinth before the Roman destruction put an end to the ceramic industry in 146. They do not figure very prominently in the plates of Roger Edwards' publication of the site's pottery,[41] but a visit to the storerooms at Corinth is enough to convince anyone that they were in full production at the time when Corinth was destroyed. At Pergamon they are found deep within the foundations of the Great Altar,[42] but that, unfortunately, is a monument without a secure date. Gioia de Luca and Wolfgang Radt have recently placed the beginning of construction in 172,[43] and Peter Callaghan has argued for a date of c. 165.[44] Judged by an Athenian comparandum that seems particularly apt – pottery from the construction fill of the stoa built by the Pergamene King Attalos II at Athens – an even later date would be preferable. The fill of Attalos' Athenian stoa contains perhaps one fragment of a long-petal bowl (the piece is too small to be identified with certainty). Set beside the approximately ten fragments known from the fill of the Pergamene monument, this suggests the Great Altar was constructed by Attalos, and not at the very beginning of his reign. Still, since that remains in the realm of conjecture, it brings us no closer to the date of the bowls.

The earliest securely dated deposit at the Agora for long-petal bowls of canonical type – that is, with flat petals and minimal rim decoration – is a cistern fill containing Knidian amphoras of period IV B (167 to 146 BC),[45] and they occur in large numbers in deposits with Knidian amphoras of period V (146-108); their floruit, therefore, belongs firmly in the second half of the 2nd century. Four earlier deposits, however, contain fragments of long-petal bowls that diverge in various ways from the canonical type. Four fragments, probably from two bowls, come from a fill that lay over the floor of the Square Peristyle (deposit Q 8-9).[46] The latest Rhodian amphora handle in that deposit was stamped in the term of Hieron I, dated by Finkielsztejn to c. 186 BC;[47] but the pottery is very similar to that in the Middle Stoa building fill, suggesting a common source for both and a closing date no earlier than c. 170. Another fragment, so similar to one of the bowls just mentioned that it could come from the same bowl, was found in cistern P 21:4,[48] along with fragments of seventy-two bowls of earlier types. The latest datable objects in the deposit are four bronze coins of c. 190-183 and a largely complete amphora stamped by the Rhodian fabricant Aristokrates II (periods IIIa-b, c. 195-184); but the similarity of the large collection of moldmade bowls to those in the Komos Cistern discussed above suggests this deposit might be about contemporary with it, and so deposited c. 170 or a bit later. Another possible fragment of early type has been detected among the c. forty bowls from cistern F 17:4.[49] All of its sixteen amphora handles probably date in the 3rd century, but a single coin indicates a deposit date after 190. Again, similarity to material from the Komos Cistern hints that the deposit date could be decades later.

Finally, fragments of a long-petal bowl with unusual overlapping petal were found behind the Middle Stoa, spread through deposits laid down in leveling operations after the building was completed – some time in the 2nd quarter of the 2nd century.[50] At present, it looks as though Athenian potters had begun experimenting with the long-petal design by around 170, though its years of popularity lay some 15 to 20 years in the future.[51]

Long-petal bowls in quantity are the marker of deposits laid down after about 150, and Thompson's Group E furnishes a rich collection of Athenian pottery in use not too long before the end of the century. Its dating is based on the absence, from among its thirteen amphora handles, of any Knidian amphoras naming an eponym of period VI, during which the *duoviri* were named; this practice is thought to have begun c. 108. Two of the fabricants named, however, occur elsewhere on handles marked by *duoviri*, so we must be close to the beginning of the period; a date of deposit in the decade before the end of the century seems to be called for. The uniformity of the deposit suggests that its range is not very great, and the material is probably typical for the last quarter of the 2nd century. There is very little evidence, however, for a detailed chronology of the third quarter of the 2nd century, that is, the period between the wholehearted adoption of the long-petal bowl and Group E. Only six of the many Agora deposits can be dated to this span (and their dating is tentative);[52] they do not document any ceramic changes in fine or plain that can be used for chronological purposes. Further study of the pottery associated with the construction of South Stoa II may eventually elucidate this timespan. At present, however, it is hard to put a date more precise than "second half of the 2nd century" on most of the ceramics of this general period.

Not surprisingly, pottery made shortly before 86 is well known. Despite the fact that most of the Sullan deposits were cleared away long after the time of the sack, the material they contain is generally very uniform, and we may assume that most of it was broken in the course of the disaster. Not surprisingly, it is not very different from the pottery in Group E, deposited a couple decades earlier; but there is one new feature. It was during this span that Athenian potters – or at least some Athenian potters – began to apply gloss only to the interior and upper exterior of bowls and plates. This semiglazing – typical of the entire Hellenistic period on some sites – is at Athens the identifying mark of the early 1st century.

Earlier Agora scholars saw the Sullan sack as the watershed between the Hellenistic and the Roman period. There is no doubt that the Roman onslaught was politically and economically devastating, but an analysis of ceramics from deposits laid down throughout the course of the century reveals that it had little impact on the style of Athenian ceramics. The assemblage became impoverished as shapes gradually went out of production, there was a marked decline in quality, and a significant rise in the number of imports. Of innovation there was very little: the one exception is the reversible lid, now fired red but still decorated in West Slope technique, which grew to enormous

proportions and, judging from the motifs painted on its walls, served some function in the cult of Isis.[53] It was still, however, a shape that could trace its ancestry directly back to Hellenistic and even Classical forms. A number of new household and cooking shapes emerged in the course of the 1st century, but the table wares, such as they are, continued to be much as they were. Athenian tableware did not undergo substantial stylistic change until a decade or two into the Common Era, when the import of Eastern Sigillata B in some quantity provided new and very different models for imitation. This observation suggests locating the end of the Hellenistic ceramic sequence in the early years of the Emperor Tiberius. I think it likely that this pattern is not limited to Athens, but rather that the survival of Hellenistic ceramics well into what we term the Roman period may be a widespread phenomenon.[54]

CONCLUSION

In conclusion I would like to consider briefly the question of the relevance of the chronology of Attic pottery for the archaeology of sites around the Black Sea. The products of Athenian potteries were widely exported in the 4th century and many found their way to the north – the so-called Kerch vases offer an obvious example. This situation continues into the first half of the 3rd century, when pottery of the early West Slope style is regularly found outside of Athens, including sites on the Black Sea.[55] One might also expect, then, to find local reflections of Attic developments in the first 150 or so of the years under consideration here. Thereafter, however, Athens' ceramic exports decreased dramatically – to the point that they all but escape archaeological notice. There was a modest overseas market for the mold-made bowls of the late 3rd to early 2nd century, examples of which have been reported widely in the Aegean, the Anatolian coast, as well as in southern Russia.[56] There seems to have been a brief period of vigorous ceramic entrepreneurship, with at least one pottery perhaps expanding its operations outside of Athens: what appears to be an Attic mold has been found on Tinos,[57] and at both Lemnos and Argos potteries with strong connections to the Workshop of Bion were established.[58] Attic wares and influence, then, might be anticipated within the span c. 225-165. Attic West Slope amphoras of the 2nd century are occasionally found around the Black Sea as well[59] and even inspired local imitations;[60] but other Attic West Slope shapes rarely traveled. There are thus only limited periods in which Attic influence or the presence of Attic imports seems likely.

This situation presents a potential pitfall in the dating of deposits on sites around the Black Sea. If one depends heavily on Attic pottery for dating, one may mistakenly interpret the absence of Attic vessels dating after a certain point as evidence for the terminal date of the deposit, while the truth may be that the deposit was laid down significantly later, but at a time when Attic

pottery was no longer being imported. And this makes the development of local chronologies all the more important.

But if Attic pottery cannot always offer comparanda, perhaps the Attic chronology can provide one example of how a model of diachronic development can be built and maintained. Athens provides what is arguably the finest-grained chronology that exists for any pottery of the 4th to the 1st centuries BC – the result of the large amount of material that has been found, the contexts in which it has been found, and the years of intensive study that many scholars have devoted to it and continue to devote to it. Like every other chronology, however, it is a hypothesis, and it must constantly be tested by new material that comes to light. Luckily for us, excavation in Athens, around the Black Sea, and elsewhere, continues to provide the means for that testing, and for moving towards an ever more accurate chronology for Hellenistic pottery.

Notes

1 Sparkes & Talcott 1970; H.A. Thompson 1934; H.S. Robinson 1959, 10-21.
2 Dugas & Beazley 1952, 3, 66-67.
3 D.M. Robinson 1933; D.M. Robinson 1950.
4 See, for example, Coulson 1987.
5 See Cahill 2002, 49-61, for an exhaustive consideration of the historical and archaeological evidence. Distribution of the later coins is plotted on 55, fig. 10.
6 For more detailed analysis, see Rotroff 1990.
7 D.M. Robinson 1933, x; D.M. Robinson 1952, 335.
8 Corbett 1951; Talcott 1951.
9 Much of the fine black gloss pottery from recent excavations shown to me by Cecile Harlaut in 1999 appeared Attic to my eye. Jean-Paul Morel, however, argues that much is non-Attic (Morel 1995).
10 Vanderpool, McCredie & Steinberg 1962.
11 Edwards 1963; Grace 1963.
12 Grace 1974.
13 Grace 1974, 197.
14 Finkielsztejn 2001, 184.
15 Lauter-Bufe 1989.
16 Williams 1978, 21-23; Romano 1994.
17 For discussion of the type, see Kroll 1993, 69-71 (variety 97).
18 For the Agora deposits, see Rotroff 1997b, 34-36; one (M 20:1) is fully published (Rotroff 2000). A Sullan deposit from the South Slope of the Acropolis has been published by Vogeikoff-Brogan (2000).
19 H.A. Thompson 1934; for comments on Thompson's innovation, see Rotroff 1987, 2.
20 H.A. Thompson 1940, 134-135; Rotroff 1984, 344-346; Rotroff 1997b, 449, under F 11:2.
21 Kroll 1993, 32-34 (variety 50).
22 See her publication of the figurines (D.B. Thompson 1963, 281-282), where she gives her reasons for dating, nos. 4 and 16 in the early 2nd century.
23 D.B. Thompson 1963, 276, footnote 3: "as far as I know now, the supplementary filling probably occurred within the first half of the 2nd century."

24 Probably written some time between 1947 and 1956.

25 Kroll 1993, variety 82 or later. Kroll (1993, 312) gives the variety as 78-80, but apparently in error, since he describes the two coins in question as belonging to the Fulminating Zeus series, the earliest issue of which is his variety 82. For the date of the beginning of the Fulminating Zeus series, see Kroll 1993, 49-51. The closing date of the Middle Stoa building fill is an important anchor in the chronology of Athenian coins of the late 3rd and early 2nd century; re-examination of the data in consideration of a later date for the fill might well result in a small shift in the dating of the latest Athenian coins in the Komos Cistern.

26 From a letter written by Wallace on Sept. 7, 1949 (quoted in Kroll 1993, 213). The coins in question are Kroll 1993, 213, nos. 632a-h, pl. 26.

27 Rotroff 1982, 103, under M 21:1; Rotroff 1997b, 461, under M 21:1.

28 "… a 'purse' of eight Histiaian tetrobols lost or secreted at the top of the filling" (Kroll 1993, 213.); "hoard from the top of the fill, apparently inserted there later" (Kroll 1993, 312).

29 Finkielsztejn 2001, 192, table 19.

30 Knigge 1980; Knigge & Kovacsovics 1981, 385-389. The definitive publication is being prepared by Ursula Knigge.

31 For analysis of the coins, see Kroll 1993, 298.

32 Rotroff 1982, 9-11.

33 For a summary of dates, see Finkielsztejn 2001, 191, table 18.

34 For the suggestion, see Grace 1963, 326, note 16; Grace 1974, 197, note 17.

35 H.A. Thompson 1934, 457.

36 Pottery from the drawshaft and the tunnel that connected it with the north chamber (lot ST 105).

37 Rotroff 1997b, 456, under H 16:3.

38 B 20:7 (the Altar Well), H 6:4, L 17:7, L 19:2, and the lower fill of N 21:4.

39 B 13:1, upper fill of B 18:7, K 7:1, K 18:2, lower fill of O 20:1, with from two to five fragments; O 20:2, with fragments of six or seven bowls; B 13:3 contains none (among 28 documented fragments of fine ware). P 21:4, with at least 73 moldmade bowls and latest amphora stamped by a Rhodian fabricant who was active in period IIIa-b (Aristokrates II), is anomalous. Close similarities with a number of other deposits argue for a somewhat later date of deposit, but the character of the deposit as workshop debris would also have an impact on its content.

40 There are no deposits with a handle of period IIIc as its latest datable object.

41 Edwards 1975, 176-179, pls. 38, 77.

42 de Luca & Radt 1999, 107-109, pls. 15, 19, 24, figs. 7, 12.

43 de Luca & Radt, 124.

44 Callaghan 1981.

45 Upper fill of L 19:2, fragments of at least five long-petal bowls in a total of c. thirty bowls.

46 Townsend 1995, 192, nos. 187-189, pl. 47; the three fragments of nos. 187 and 188 may be part of a single bowl. Nos. 187 and 188 have convex petals; no. 188 has a battlement and running spiral rim pattern; and the arches that normally form the tops of the petals are omitted on no. 189, which also has an unusual low, straight rim.

47 Finkielsztejn 2001, 192, table 19.

48 P 30432, with a battlement and running spiral rim pattern; for the deposit, see Rotroff 1982, 106 and Rotroff 1997b, 468.

49 P 30396, with convex petals; for the deposit, see Rotroff 1982, 100; Rotroff 1997b, 452.

50 Rotroff 1982, 85, no. 344, pls. 62, 87; Rotroff 1988. In addition, five fragments have been found in the building fill of the Middle Stoa (P 21048, P 21049, P 22858, P 24819, P 24822), but further study is needed to determine whether they are intrusive or inherent to that large deposit, which contains substantial evidence of disturbance.

51 The very slight representation of the type in the fill of the Stoa of Attalos (built between 159 and 138, when the bowls must certainly have been in production) and the terrace behind South Stoa II (thought to have been built after c. 150) remains a puzzle that will not be solved until the complex stratigraphy of those buildings has been thoroughly analyzed.

52 Lower fills of E 6:1 and E 6:2, H 16:4 (Group D), G 11:1, O 17:6, and perhaps E 15:4.

53 Rotroff 1997b, 193-196, figs. 81, 82, pls. 98-100.

54 For further discussion, see Rotroff 1997a.

55 E.g., Rotroff 1991, nos. 21, 24, 25, 28, 33, 37, pls. 18-20, 22, 23.

56 See Rotroff 1982, 10, note 43 for a list of sites and references.

57 Etienne & Braun 1986, 224, An. 9, pl. 111.

58 Massa 1992, 244-245; Rotroff 1994. Lawall et al. 2002, 428-430.

59 E.g., at Istros (Alexandrescu 1966, 194, XXXVII 8, pls. 95, 96), Olbia (Knipovič 1949a, 279, fig. 5.6; Belin de Ballu 1972, 118, pl. 39.4; Parovič-Pešikan 1974, 124, fig. 100.4-5), and Pantikapaion (Knipovič 1949a, 274, 278-279, figs. 2.3 and 5.2).

60 Knipovič 1949a, 279-280, fig. 5.4; Maksimova 1979, 114-115, no. 2, fig. 52, pl. 5.6); *CVA* Mainz 2 [Germany 43], pls. 36 [2093].6 and 36 [2093].9; perhaps *CVA* Kassel 2 [Germany 38], pl. 86 [1886].1-2.

Negotiating Chronologies: Aegean Amphora Research, Thasian Chronology, and Pnyx III[1]

Mark Lawall

Chronology rarely involves only one type or class of artifact. An amphora might take its date from a coin found in the same stratum, but closer consideration might reveal the dependence of the coin's date on associated fineware pottery in some other context. That pottery might have been dated by associated stamped amphora handles, whose dates might depend on other coins. These other coins, in turn, might depend on a questionable interpretation of the historical sources. Or consider the dating of a single dumped fill of pottery. Some of the types present might span a 50-year period in our current understanding of their production and use; for the sake of illustration consider that to be 300-250 BC. The most common type found in the same deposit might be known to cease production and common use c. 290. In light of the frequent finds of the latter type and given the possibility of the former type being produced and used as early as 300, a closing date well before 250 and much closer to 290 would have to be considered as a strong possibility. Had those more narrowly datable types not been present, of course, a much later likely closing date might have been assigned, and previously undated artifact types from that deposit might be assigned similarly, perhaps erroneously, late dates.

These two hypothetical scenarios provide a background for my title. Creating chronologies involves negotiating a web of relationships between artifacts. Chronologies, too, depend on negotiation among various artifact classes, each with its own set of constraints. One could see such negotiations as hopelessly circular and subjective.[2] And yet a more satisfyingly objective approach (for example taking the latest *possible* date from the artifact types present in the second example above as the *terminus post quem* for the closing of the deposit) might not be any more accurate. Understanding the current state of any artifact chronology, therefore, depends both on what varying levels of precision are currently understood and how that artifact's chronology is linked to other chronological sequences.

It would be impossible in the space of one paper to present the full "current state" of transport amphora chronologies in these terms, even from a strictly Aegean and Eastern Mediterranean perspective.[3] A general summary can, however, highlight both the interrelations between classes of evidence

and the varying levels of currently known precision. This summary forms the first part of this paper.

The second part of the paper, the absolute chronology for Thasian amphora stamps in the 4th century BC, illustrates the potential complexities of such negotiations. This example is particularly suited to the Pontic focus of this volume since Thasian amphoras of this period are so commonly found at Black Sea sites. Two recent studies of Thasian chronology use a significantly lower starting date (moving from the late 5th century to c. 389) and a lower date for the transition from two-name to one-name stamps (from c. 340 to c. 330-326) than had been the accepted opinion for many decades.[4] The specific grounds for the higher chronology, however, were never reconsidered in detail nor were the interactions between these competing Thasian chronologies and the chronologies of other artifacts.

Until the most recent discussions, a central pillar of Thasian chronology was the construction fill for the third version of the Pnyx assembly area in Athens (Pnyx III). The third and final part of this paper, therefore, reconsiders this fill both in terms of both a restudy of the extant excavation records and recent developments in Thasian amphora stamp and other artifact chronologies.

THE CURRENT STATE OF AFFAIRS IN THE AEGEAN

Stamp chronologies

Late Classical and Hellenistic amphora stamps are the most thoroughly studied element of Aegean amphora studies. Recent publications have proposed quite precise dates for Thasian and Rhodian stamps. Alexandru Avram proposed a chronology, year-by-year in some groups, for the Thasian stamps,[5] and for the old-style two-name stamps Yvon Garlan has offered a similar, but more explicitly general, sequence.[6] For the Rhodians of periods IB through V (c. 270-108 BC) there is Gérald Finkielsztejn's revision to Virginia Grace's chronology,[7] and in far more detail than Grace was willing to suggest. This chronology so far only covers the eponyms, and only certain fabricants' careers can be reconstructed. Comparatively general dates may be determined for Knidian stamps on the basis of Grace's publications, but no unified statement on the Knidian chronology exists from an Aegean perspective.[8] Stamps on Corinthian and Adriatic Greek amphoras are also moderately datable;[9] however, without the links between names that have proven so useful in other classes, these dates depend on the changing shape of the jars and the dates of associated artifacts. Koan amphora stamps remain poorly understood despite the frequent finds of Koan amphoras and despite the existence of an unpublished "Koan corpus".[10] Chian amphora stamps are datable in only

very general terms, with name stamps seeming to begin very late in the 3rd century.[11]

For the Aegean from c. 400 to 100 BC, therefore, relatively well-dated stamp series cover two broad periods. For the 4th and 3rd centuries there is the Thasian series, though by 250 this chronology becomes uncertain. The Rhodian series then covers the period c. 270 through c. 108 in detail, and earlier and later decades in more general terms. During the 2nd century and the first quarter of the 1st century, too, the stamps of Knidos are datable with some precision.

Jar chronologies and minor stamp classes

Within this same period of c. 400-100 BC, there are various other types, either rarely or never carrying stamps, whose chronological developments are increasingly well-established. From the earliest part of the 4th century, the Chian conical toe type may be traced through the period in question.[12] For the first half of the 4th century, Mendean and other northern Aegean amphoras may be placed within a development of wider to narrower (for further on the Chian and Mendean types, see Part 2, below). Especially problematic in this case is the differentiation between producers and which amphora types may be compared in greater or lesser detail.[13] Jars with mushroom-shaped rims are common throughout this period,[14] though precise chronologies are often less certain. Known places of manufacture include Erythrai, Klazomenai, Samos, Ephesos, the area near Knidos and further sites eastward along the Datça peninisula, Rhodos, and Kos. Among the better dated of these types are the late 4th or earliest 3rd century form from Rhodos and its peraia,[15] and a type of unidentified place of manufacture with unusually heavy handles and tall neck.[16] The chronology of Erythraian production within this tradition in the 4th century, shifting to a band rim shortly before the mid-3rd century,[17] and finally to a cup-shaped rim (early version of Dressel type 24) near the mid 2nd century,[18] is also becoming clear. Also late in the 4th century continuing into the 3rd century is a wide conical body amphora with a tall neck frequently found in the area of Thessaly and Euboia.[19] A frequently appearing type in late 2nd and earliest 1st century contexts in Greece and elsewhere closely resembles Italian Brindisian amphoras but differs in fabric and chronological longevity.[20] Outside Athens (where Rhodian, Koan and Knidian amphoras dominate the later Hellenistic assemblages) various more narrowly regional types are becoming better understood, including late 2nd century grooved rim types from the Troad or eastern Thrace and the 3rd through 1st century Nikandros group, likely from the Ephesos region.[21]

With all of these, however, there is much less chronological precision as compared with the major stamped classes. The absolute chronologies, regardless of precision, depend in the first instance on "fixed points" provided in most cases by references in textual sources. From such points associations

between artifacts, the "synchronisms" so often discussed by scholars working in the Pontic region, allow the chronological ordering of a wider range of types and forms. While the many tumuli and other complexes of finds from the Black Sea region provide important synchronisms,[22] the fixed points still tend to come from the Aegean and Mediterranean regions.[23] The inevitable result is that the Aegean and Mediterranean contexts, from which the amphora material might be quite scantily published (if published at all), carry considerable weight in Black Sea chronologies. These contexts and related historical evidence for the period 400-100 BC are relatively restricted in number and generally known, but various details of their quality or security as fixed points deserve closer consideration.

The major contributing sites and historical considerations

A wide range of sites across the Aegean and Mediterranean regions has provided significant data both for the relative sequences of different amphora types and for their absolute dates. The following survey emphasizes the more important or often cited deposits as well as some of the lesser known cases.

Although its role in terms of published contributions to amphora chronologies is noticeably behind its contribution to fineware chronologies, there is an undeniable contribution to amphora chronologies from the Athenian Agora excavations. For the period in question, the best known and the only extensively published deposit is the Middle Stoa Building Fill.[24] The Stoa of Attalos building fill is often cited, but it has received only passing reference in Grace's article on the Middle Stoa. This fill can date, historically, anywhere between 159 and 138. Grace, Koehler and Matheson have argued that the amphora stamps place the construction c. 157, but the amphora stamps indicate this date so the building itself does not provide external evidence for amphora chronologies.[25] The fill of an unused foundation trench for the Square Peristyle Building, deposit Q10:1, has played a role in the Thasian chronology for the first few decades of the 3rd century, but this fill has been incompletely reported and depends for its date on Thasian stamps.[26] A very few amphora fragments and stamps were found in association with the deposits containing tiles and other debris associated with the Tholos, deposits attributed by Susan Rotroff to events c. 294, but this date itself has not played into the development of the chronologies since the stamps are not published (the latest Thasian stamp, with the eponym Deinopas, is dated by Avram to 296).[27]

Outside Athens, the most influential excavation must be considered the Ptolemaic encampment at Koroni, in use sometime between c. 267-261 BC. Fortunately amphora stamps and some amphoras too were published in the main report.[28] Current opinion tends to place the latest Rhodian stamps at Koroni as being roughly contemporary with the latest coins, c. 265, and the Thasians are placed between 264 and 262.[29] A third stamped group from Koroni, those with the abbreviation ZH written above an abbreviated eponym,

is less securely dated. The constraints imposed by the currently accepted chronology of the war, the discoveries of similar stamps at other sites bringing in new constraints, and the need for considerable supply mechanisms that must have accompanied any army might all assist in refining the date of the camp's occupation and the precise chronology of the stamps and amphoras in question.[30]

While Koroni continues to attract attention, other contexts too have played significant roles in the development of amphora chronologies, 400-100 BC. For amphoras and amphora stamps, the reference to material from Olynthos is not as useful as it is for other pottery; the vast majority of the published material is local Chalkidian and there are not even many stamps from nearby Thasos.[31] In the same region a few decades later, c. 316 BC, there remains considerable uncertainty as to the impact on amphora production of Kassander's reorganization of the Chalkidike with the synoicism creating Kassandreia.[32] For the 4th and 3rd centuries, a series of wells, workshop dumps and stratified contexts on Thasos have proven immensely important for amphora chronologies, both in terms of Thasian stamps and other imported amphora fragments.[33] The foundation of Demetrias in Thessaly between 294 and 288 provides a *terminus post quem* for stamps (and amphora forms) found at that site; this *terminus* is particularly important for the Thasian chronology and for the early Rhodian and Rhodian-peraia chronology.[34] A well in Eretria closed in the 260s BC (dated with reference to events of the Chremonidean war), although rarely cited in amphora studies, provides an important view of early Hellenistic amphoras along the central east coast of Greece and causes slight revisions to Thasian stamp chronology (see below).[35] Two mid to late 3rd century well deposits at Pella provide chronological pegs for the Parmeniskos group and the incuse-MI group.[36] For the third quarter of the 3rd century, albeit in a somewhat remote location, the city wall of Hellenistic Ilion is now historically fixed before 217 and probably closer to 230.[37] The Roman attack on Eretria in 198 provides a valuable *terminus ante quem* for Chian name stamps, which are otherwise reliably attested only in contexts closed c. 190 and later.[38] For the latter half of the Hellenistic period, the destruction of Corinth in 146 is still largely accepted as a fixed *terminus* for the Rhodian and Knidian chronologies. A list of fifty Knidian stamps published from Corinth, however, includes 11 from the period 146-108, and as early as 1953 Virginia Grace herself questioned the security of this *terminus*.[39] Two deposits on Delos are mentioned as significant for the Rhodian and Knidian chronologies: the Stoa of Philip V, datable by associated inscriptions anywhere between c. 210 and 180, and the building fill for Serapeion C, whose amphora stamps Grace placed near 150 BC. The Stoa of Philip, however, provides stamps only from excavations of uncertain quality for restoration work.[40] The finewares from the building fill for Serapeion C and related inscriptions might require a date closer to c. 100 than to 150 as Grace suggested on the basis of the Knidian stamps.[41] More distant sites figuring prominently in Finkielsztejn's Rhodian chronology

include Carthage (besieged and presumably cut off from imports in 149),[42] Jerusalem (where the besieging and ejection of the Seleucid garrison on the Acra between 145 and 142 may have been followed by stricter adherence to Jewish laws forbidding contact with ceramics and foodstuffs from non-Jewish sources), Gezer (most likely periods for imports being before 142 and again between 134 and 125), Marissa (non-Jewish Edomites expelled or converted in 112, city destroyed in 108), and Samaria (destroyed 108).[43] For the end of the period in question, i.e., around 100 BC, the various destruction-related deposits from Sulla's campaigns in the early 1st century BC provide *termini ante quos* of 86 and 85 BC.[44]

Although lacking historical evidence for their dates, shipwrecks deserve special mention for their role in providing relatively secure associations among different amphora types and other artifacts. The most often cited 4th century shipwrecks include Porticello and El Sec,[45] both of which are discussed in the second part of this paper. For the late 4th or early 3rd centuries the Kyrenia shipwreck, despite its incomplete preliminary publication, has provided an important closed assemblage.[46] The Serçe Limanı Hellenistic shipwreck was initially dated on the basis of one Thasian stamp, Pythion V (280s BC), but its main cargo comprised of jars from the area of Knidos may require a date in the late 270s or even early 260s.[47]

For the later 3rd and 2nd centuries, shipwrecks have played a minor role in the current state of Aegean amphora chronologies.[48] The Apollonia B site at the port of Apollonia (Libya), *if* it is a single wreck or dumped cargo, provides a surprising link between the Rhodian fabricant Drakontidas, active from c. 140 through the 130s, and the name Ariston.[49] Whether Ariston is a fabricant or eponym stamp (unclear from the secondary publications I have seen), the name is placed late in Rhodian period III, c. 167/165.[50] These Rhodian stamped amphoras at Apollonia are accompanied by mouldmade bowls attributed to the Menemachos workshop at Ephesos. The site is therefore important for the dating of both the amphoras and this prolific workshop for Hellenistic fineware.

Alongside historical events providing *termini ante* or *post quos* for finds, historical events or trends have also been enlisted to narrow chronologies through their indirect effects on the archaeological record. Virginia Grace, for example, linked the start of Thasian epigraphic stamping to Athenian concerns over standards of measurement.[51] Although there is no direct evidence that the Athenians required Thasian amphora stamping, Athenian policies may have caused this innovation indirectly. She later proposed that the shift to the new style of stamping c. 340 should have resulted from the rise of Macedonian influence over Thasos.[52] For the late 3rd and 2nd centuries, the c. 35-40 years represented by the Rhodian stamps in the famous deposit on Pergamon's citadel were tied to good relations between Rhodes and Pergamon c. 220/210-180/175 BC; Rhodian secondary stamps here were tied to Rhodian control of a larger peraia after 188; and phrourarchs on related Knidian stamps

were tied to a Rhodian-employed garrison at Knidos between 188 and 167.[53] Finally, for the late 2nd century, along with the various destruction deposits cited above, there is the appearance of the term "Andres" on Knidian stamps. Grace interpreted the term as referring to *duoviri*, magistrates at Knidos as part of the Roman system of tax collection; Grace placed their activity between 108 and 88, interrupted by Mithridates' order to kill all Romans and Italians in 88, and then resuming again between c. 85 and 78 BC.[54]

Such historical links are always the subject of debate. I have recently published a critique of the historical pins relating to the Pergamon Deposit.[55] Epigraphic evidence places the entry of Knidos into the province of Asia by 100 BC, but no textual evidence establishes 108 BC in particular as the starting year for the *andres*.[56] Sullan sack contexts in Athens played a significant role in determining this date, and as a result nearly all the Knidian stamps Grace published from Delos were thought to date before the Mithridatic attacks on Delos and Knidos in 88.[57] Debris on floors and in a storeroom in the House of the Seals on Delos, a house argued to have been abandoned only after the later attack by pirates in 69, includes many Knidian stamps that Grace dated to before 86.[58] Such an early date seems unlikely especially for the repeated names appearing in debris abandoned in 69. New imports after 85 BC seem much more likely. Such a downward shift in the dates of some names may be compatible with their appearance in "post-Sullan clean-up" contexts in Athens since such deposits often contained material datable on other grounds later than 86 BC.[59]

THASIAN AMPHORA STAMPS – NEGOTIATING A WEB OF CHRONOLOGY

These various possible intersections between historical chronologies and archaeological chronologies bring me to the second part of this paper: a more detailed consideration of how various classes of evidence affect the absolute chronology of Thasian amphora stamps. Of particular concern are the starting date of epigraphic stamps and the date for the transition from old-style two-name (*anciens*) to new style one-name (*recents*) Thasian stamps. This topic is particularly important for Pontic archaeology both on account of the large numbers of Thasian stamps found at Black Sea sites and on account of the decline in such imports, broadly speaking, after the advent of the new-style stamps.[60] Although the clear majority of Thasian stamps is found in the Black Sea, and although a significant component of their relative chronology depends on synchronisms discovered at Pontic sites, arguments for their absolute dates depend almost entirely on Aegean evidence.[61]

A fundamental problem for the absolute chronology for Thasian amphora stamps is whether Thasian epigraphic stamps began before or after 400 BC. The two most recent discussions, by Avram (1996) and Garlan (1999), place

the starting date c. 390. Both authors found themselves dependent on the much later fixed point of the Koroni camp to arrive at the transition date from old-style to new-style stamps. From that transition date, calculated to be c. 330, they work back to the starting date of the old-style stamps c. 390. While their arguments are quite persuasive, room for uncertainty still remains both because the new-style stamp chronology remains incompletely articulated and because arguments for the pre-400 starting date offered by Grace were insufficiently addressed by Avram and Garlan.

Development of Grace's research

In 1946 Virginia Grace suggested that Thasian epigraphic amphora stamps started before the end of the 5th century.[62] The evidence for this early starting date came from two late 5th century Agora contexts already excavated in the 1930s, D19:1 and J13-14:1.[63] Both deposits contained the same stamp from Garlan's Group B, with the eponym Teles( ) and the fabricant Eurua(nax?) (Fig. 1).[64] Grace then referred to Athenian interests in controlling standards as a factor in the advent of Thasian stamping. She suggested early dates for various stamp types with reference to Thasian coins and possibilities concerning the iconography of the stamps' devices.[65]

The interaction between historical interpretation and archaeological chronology becomes quite problematic in the next stage of publication concerning the Thasian chronology: Pnyx phase III. In the 1956 volume including the fineware pottery and the stamped amphora handles, Grace noted that "the filling of [Pnyx III] as dated by the Attic figured pottery … is close to being coterminous with what had been considered pre-Macedonian Thasos, formerly assumed to have ended with the conquest by Philip II in 340."[66] Only one Attic red-figured fragment was dated after 350.[67] The only reference to c. 340 in the Figured Pottery chapter is that the amphora stamps are no later than c. 340 according to "independent historical conclusions."[68] In fact, Grace followed Pouilloux's arguments against a Macedonian conquest of Thasos. But without Philip's conquest, the nature of the "independent historical conclusions" becomes unclear.

Grace shifted her opinion on the date of the introduction of Thasian epigraphic stamps following her study of the contents of well U13:1 in the Athenian Agora. T.L. Shear Jr. published a preliminary report on this deposit in 1975.[69] He suggested a closing date of this well between 390 and 380 due to both the lack of roulette decoration on the black-glaze, a decorative technique thought to begin in the early 4th century, and the absence of classical kantharoi, thought to start in the 2nd quarter of the century. Despite containing at least 160 amphoras, including four or five possibly Thasian jars, the fill lacked stamped Thasian handles. For this reason, and following the similar lack of Thasian stamps in other large late-5th century deposits, Grace suggested moving the starting date for Thasian stamps into the 4th century. U13:1 is not




Fig. 1.
Thasian stamped amphora fragment from D19:1 (SS9636, photo courtesy of the American School of Classical Studies, Agora excavations).

mentioned directly in published comments, but her unpublished notes make it clear that this was the catalyst for the change of opinion.[70] In 1985, Grace wrote of the 340 transition date as fixed by Pnyx III (even though her report on the Thasian amphora stamps was the source for the historical conclusions leading to that date!), and the later starting date of after 400 or even after 390 was simply stated but not discussed.[71] Yet here is a fundamental difficulty: if the Pnyx fill had marked the transition date when stamps were thought to begin before 400, how could that date of c. 340 still mark the transition when stamps were thought to start after 400?

Avram and Garlan

Both Avram and Garlan noted Grace's shift in terms of the starting date and realized that a fixed number of old style eponyms would require a shift in the transition date as well. Homer Thompson and Robert Scranton, in 1943, had in fact offered a later construction date of c. 330-326.[72] Avram and Garlan accepted this later date,[73] but both noted that Pnyx III could not provide a secure, independent terminal date for the old style stamps as had been so long assumed. Both scholars, therefore, took as their starting point the three new-style stamp eponyms found at Koroni (Kleostratos on three examples, Demalkes on three examples, and Idnades on one example).[74] Garlan starts his calculations from c. 265 for stamps at Koroni.[75] Stamps of the Koroni Thasian eponyms were also found in stratified contexts at the Thasian workshop site of Kounouphia. Garlan classified the eponyms at Kounouphia both by their use of the barred sigma (earlier), lunate sigma (later), or combination of the two (middle), and by the stratigraphic relationships among the stamps. By this process he proposed that 24 of the 86 Kounouphia eponyms should date before Koroni, and the rest should be later.[76] Thirty-nine new-style eponyms not found at Kounouphia account for the remaining new-style eponyms falling before Koroni. This group's chronological position is established either by the stamps' use of the barred sigma or, in one case on account of its membership in the "genitive group" whose other two eponyms are attested at

Kounouphia.[77] Adding 24 and 39 to c. 265 (for the date of Koroni) places the earliest new-style eponym at c. 327. Old style stamps, for which there are 61 eponyms, therefore likely began c. 387.

And yet there is room for uncertainty. M. Debidour, in 1986, listed 25 names as "in the first half of the 3rd century."[78] Of these, Garlan assigned five before Koroni, and Avram added a sixth and inserted an eponym not listed by Debidour;[79] Avram's two additions move the transition date back to 329. Furthermore, it is now necessary to place the eponym Euagoras before Koroni since two examples of the stamp are published from a well deposit at Eretria persuasively associated with the attack on Eretria early in the Chremonidean war.[80] The addition of Euagoras moves the transition to c. 330. From Debidour's list, Avram also assigned 14 eponyms as post-Koroni: those not found at Koukos (a workshop that seems to have ceased production not long after Koroni) but found either at another workshop, Vamvouri Ammoudia, or in a deposit near the Silen Gate on Thasos, and those in a stylistic Group BA defined by Garlan.[81] Four names from Debidour's list for the first half of the 3rd century remain unaccounted for (Aischrion with monogram HB, Antianax, Kadmos, and Nauplios), and neither Garlan nor Avram provides arguments for their being later than the Koroni group. If these four are pre-Koroni, then the transition date moves to 334. Finally, Debidour's argument for placing Kleitos as an old-style eponym (not included in the 61 cited above) gives 62 years for the earlier series. It would seem, therefore, that sufficient uncertainties still exist as to leave the possibility open of a starting date approaching 400 (395 if the transition is 334). If the latest Koroni-related Thasians date in fact to the beginning of the war in 267, then the starting date moves to 397.

It is possible, however, from the beginning of the Thasian series, to build a further case – again independently of the Pnyx – in favor of the later transitional date. The case moves from the two Agora deposits cited by Grace in 1946, D19:1 and J13-14:1,[82] then to a wide range of other deposits and closed contexts involving chronological sequences of other classes of artifacts. The choice between the earlier and later chronologies for the Thasian stamps can then be made in terms of how the Thasian chronology interacts with these associated chronologies.

D19:1

D19:1 is a cistern southwest of the Agora proper in a late 5th-4th century house.[83] Many wells and cisterns in this area were filled in around 400 BC, many of the buildings were modified, and the artifact assemblages shift from standard domestic debris to extensive debris from marble working.[84] D19:1 was filled in after a section of the bedrock cistern wall collapsed. The opening of the cistern was later built over by a wall belonging to the late Hellenistic phase of the house and late Hellenistic and early Roman pottery was found in the fill immediately over the cistern. Excavation of the cistern first

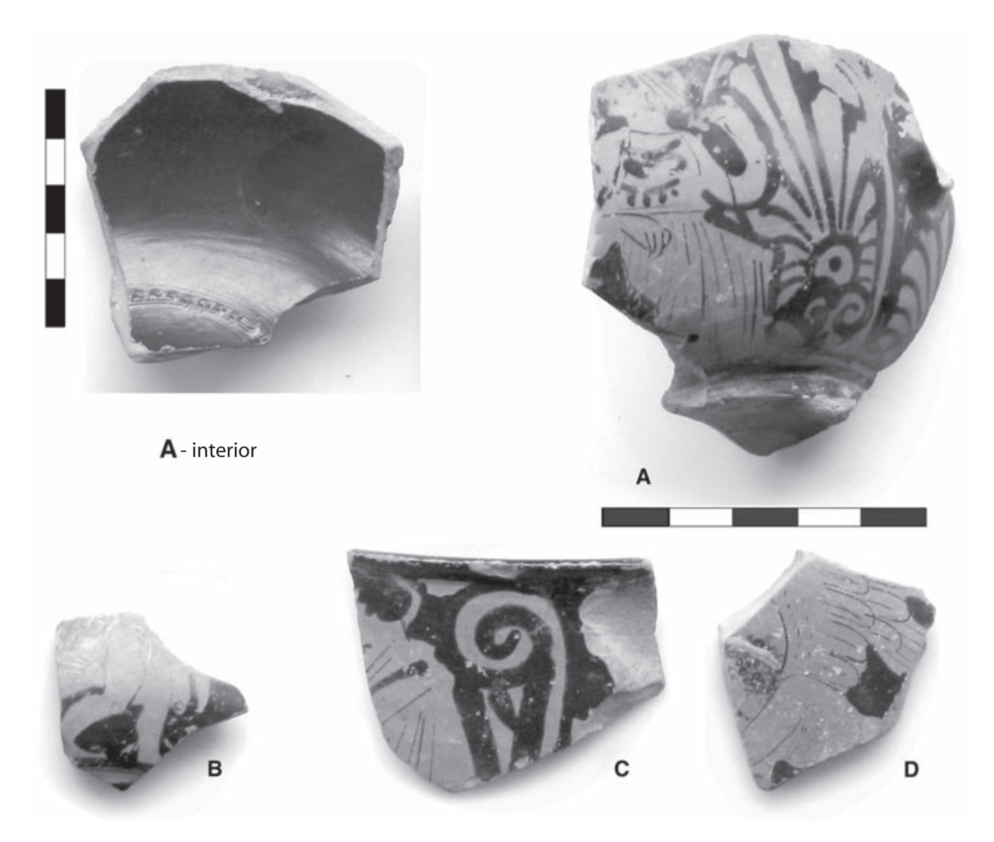


Fig. 2. Early 4th century finewares from D19:1. a) Q-painter cup-skyphos fragment with proto-rouletting on the interior, b) komast dancer, c) Fat Boy group skyphos fragment, d) Eros with fillet in added clay. (From box NN831; photo courtesy of the American School of Classical Studies, Agora excavations).

encountered sandy fill mixed with marble chips for the first 1.8 meters, then the marble chips disappeared over the next 0.4 meters and no longer appeared in the remainder of the fill to the bottom of the cistern at 3.95 meters. The final summary of the excavations refers to Hellenistic sherds scattered throughout – even in the bottom of the fill – and concludes that this 5th century debris was gathered elsewhere and dumped into the well as part of the late Hellenistic renovations to the building.[85] The presence and then disappearance of marble chips in the fill, however, echoes the stratigraphy of other late 5th/early 4th century fills in the neighborhood. A supplementary fill during the Hellenistic phase of the house may well have been needed to support the overlying wall and level the area once the earlier Classical fill had settled. Pottery from this later fill may have been mixed with the earlier fill during the excavation itself when work was interrupted to build supports for the collapsing bedrock walls of the cistern. If the fill was indeed only deposited in the Hellenistic period it must have been gathered from a largely undisturbed earlier fill since the

Thasian amphora top in question is so well-preserved. This Thasian jar was found in the lower part of the fill and, with the exception of the reported Hellenistic material, the accompanying pottery was all described as dating to the late 5th century. If the accompanying pottery is late 5th century, then the Thasian stamp series, too, should start before 400 BC.

On closer examination, however, there is plenty of early 4th century pottery in the fill (Fig. 2). Two lamps, one from the upper fill and one from the lower fill, are of Howland's type 23C thought to begin early in the 4th century.[86] The best-preserved red-figure fragment is from a cup-skyphos, very close in style to the work of the Q-painter, whose work is generally dated to the early 4th century; a fragmentary komast dancer is attributable to the same painter and date.[87] The interior of the cup-skyphos shows what has been interpreted as the forerunner of roulette decoration; however, there is no true rouletted decoration here.[88] An early 4th century date may be offered, too, for a fragment of a red-figure skyphos of the Fat Boy group and a wall fragment showing Eros with wreath in added clay.[89]

J13-14:1

The second of the deposits mentioned by Grace in 1946 is J13-14:1, fill in and over the Polygonal Drain (an early tributary of the Great Drain). There are two main fills here: a lower fill in the drain itself and an upper covering layer "not later than the 5th century."[90] The Thasian stamp was found in the lower fill and is poorly preserved as compared with the example from D19:1. Two *ostraka* of Hippokles Menippou in the same fill give a *terminus post quem* of c. 417-415.[91] A lamp from this fill, too, is of a type dated to the late 5th century by Howland.[92] An early 4th century red-figure askos with panthers provides a later date for at least the upper fill.[93] This fragment was not part of the initial set of inventoried pieces from the fill, and the precise findspot (whether from the upper or lower fill) was not recorded even though the fills were kept separate in the storage tins. The most diagnostic amphora fragments in these tins are the Chian toes (Fig. 3); one from the lower drain fill is paralleled in deposits closed near 400 BC, while those in the overlying fill show slight development now better paralleled in the c. 390-380 BC deposit U13:1 mentioned earlier. The lower drain fill with the broken and worn Thasian stamp should be earlier, perhaps no later than c. 390.

Reconsideration of the contents of D19:1 and J13-14:1 does, therefore, establish their early 4th century dates. The dependence of such dates on a range of chronologies other than Thasian amphora stamps is clear. Even with this adjustment of these deposit dates, the starting date of the Thasian stamp series still remains uncertain. The cistern fill D19:1, with its very well-preserved example amidst early 4th century finewares, encourages a date later than c. 400 for the eponym Teles( ). The lack of rouletting on associated black-

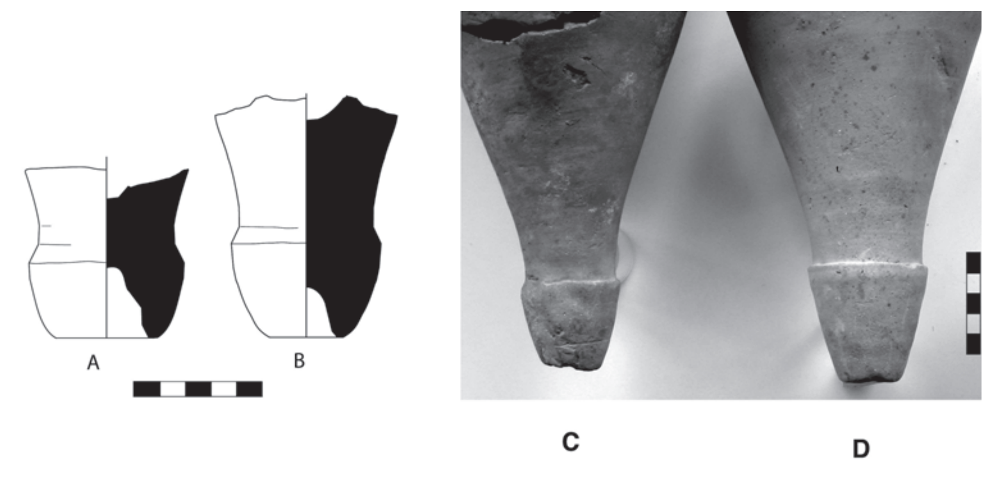


Fig. 3. Chian amphora toes from J13-14:1 (a. lower fill, b. upper fill, drawings by the author), U13:1 (c) and H12:11 (d) (c. P30699, d. from tin Z13, photos reproduced courtesy of the American School of Classical Studies, Agora excavations).

glaze pottery and the fact that the poorly preserved example of the stamp is stratified below a fill contemporary with or even slightly earlier than U13:1 together provide a lower limit of c. 380 or even earlier. This evidence works fairly well with Garlan and Avram's dates for Thasian Group B, though the evidence would fit best if Teles( ) sat earlier rather than later in this group of names. It is equally possible, with only these two deposits providing the constraints, that Thasian Group B started before 400 and that Teles( ) appears late in the 390s.

Intersecting Artifact Chronologies

Three different artifact chronologies – Chian amphora toes, Mendean amphoras, and black-glaze finewares – create a set of constraints to narrow these possibilities for the Thasian chronology (Table 1). To the two deposits discussed by Grace, it is necessary to add consideration of six others: well fillings R13:4, R11:3, U13:1, H12:11, R13:11, and B12:5; cistern fill S19:3; and a fill over a cobbled surface H17:5.[94] Other closed contexts providing further evidence include the Alonnesos, Porticello, and El Sec shipwrecks; a bothros closed with the construction of the Maussolleion at Halikarnassos; and Olynthos (though only for the finewares).[95]

The Chian toes establish the basic contemporaneity of deposits J13-14:1, U13:1 and H12:11 (Fig. 3). In the J13-14:1 drain fill the Chian toe is still a more knob-like form akin to the earlier 5th century forms. For J13-14:1 upper layer, U13:1, and H12:11, the toes are more clearly conical. There is a slight difference between H12:11 and U13:1 in that the toes of H12:11 show less of

Table 1. *Deposits from Athenian Agora and related shipwrecks: Summary of contents (only artifact classes discussed in paper).*

Deposit name	Amphoras	Finewares	Thasian Eponyms
R13:4 Well filling	Round Mendeans	Rheneia pit parallels; very neat and complex stamp patterns	
R11:3 Well filling	Angular, but short neck Mendean		
Alonnesos	Angular, slightly taller neck Mendean	Wide, elaborate ray decoration	
Porticello	Angular, tall neck Mendean	Stamp decoration more limited, less careful; proto-rouletting on cup skyphos	
D19:1 Cistern Fill		Q-painter with “proto-rouletting”; Fat Boy group; added clay wreath on Eros	Teles( )
J13-14:1 Drain fill	Chian conical cuff toes		Teles( )
U13:1 Well filling	Chian conical cuff toes; Angular tall neck Mendean	Very restricted decoration in black glaze stamping; Fat Boy group; no rouletting on anything	
H12:11 Well filling		Solid-black base for bolsals; rouletting on cup-skyphos/kantharos	Aristomenes
El Sec	Taller neck Mendean; Sinopean Group Ib (Endemos)	grooved ring-foot for bolsals; with rouletting	
R13:11 Well filling	Tallest neck Mendean – phi stamp		
H17:5 Fill over cobbled surface [S19:3 and B12:5]		Rouletting [rouletting and grooved ring-foot on bolsals]	“Phiale”; “Star”

a narrowing of the body just above the toe and the slightly heavier conical toe form.

The sequence for the Mendean amphoras, next, helps to establish the relative proximity of deposits within a longer series spanning the late 5th through mid 4th centuries: deposits R13:4 and R11:3, the Alonnesos and Porticello shipwrecks, then U13:1, the El Sec shipwreck, and finally a complete jar from R13:11. R13:4, and hence the group of five nearly complete Mendean amphoras from its fill, is dated both by black-glaze in the same fill, which closely resembles finds in the Rheneia trench of 426, and by the likelihood that it represents debris from an extensive earthquake of 426/425.[96] R11:3, a well filled in probably during a late 5th century refurbishment of the east side of the Agora, shows a noticeably more angular body than those in R13:4.[97] The Alonnesos jars are somewhat later in terms of their forms, continuing the trend towards greater angularity and a taller neck. These jars are accompanied by black-glaze forms with extensive incised decoration typical of the late 5th century. The Mendean amphoras from R11:3 and the Alonnesos wreck, in that order, should fall within the last quarter of the 5th century.[98] The Porticello Mendean profiles, with significantly taller necks and toes, seem very close to those from U13:1. For this reason, the Porticello wreck should date within the early 4th century. The El Sec shipwreck Mendean amphora is a problem (Fig. 4). When the body in the drawing is printed at the same size as the body in the photograph, the neck in the photograph is noticeably taller.[99] It is clearly later than the U13:1 jars. Depending on whether one uses the photo or the drawing, however, the El Sec jar may sit midway between the examples from U13:1 and the jar from R13:11, or it may sit very close to R13:11. The jar from R13:11 cannot, however, date later than c. 351 BC since the same stamp with very similar rim and handle appears in a deposit closed by the construction of the Maussolleion of Halikarnassos. Although 351 is the most conservative *terminus ante quem* for this jar, since much of the Maussolleion must have been complete by the time Artemisia died in that year; work on the Maussolleion may have begun as early as the late 360s.[100] The Maussolleion jar provides a much-needed *terminus ante quem*, and the Mendean amphora in El Sec cannot be later.

Black-glaze forms and decorative schemes of the late 5th and early 4th centuries both complement and supplement the evidence from the Mendean amphoras.[101] The Porticello bolsals are compatible with examples in U13:1 in terms of shape and decoration (Fig. 5).[102] The Porticello cup skyphos shows very similar proto-rouletting as that seen in D19:1.[103] The finewares of H12:11 are slightly later than U13:1 for two reasons: H12:11 includes 1) solid black bases on small bolsals with standard ring bases and 2) one fragment of a cup-skyphos with true rouletting (Fig. 6). No bolsal or other fragment from this deposit preserves rouletting.[104] The two earliest Agora deposits with rouletting on bolsals and the grooved bolsal foot are B12:5 and S19:3, neither of which includes Thasian stamps. These deposits, however, share many ele-

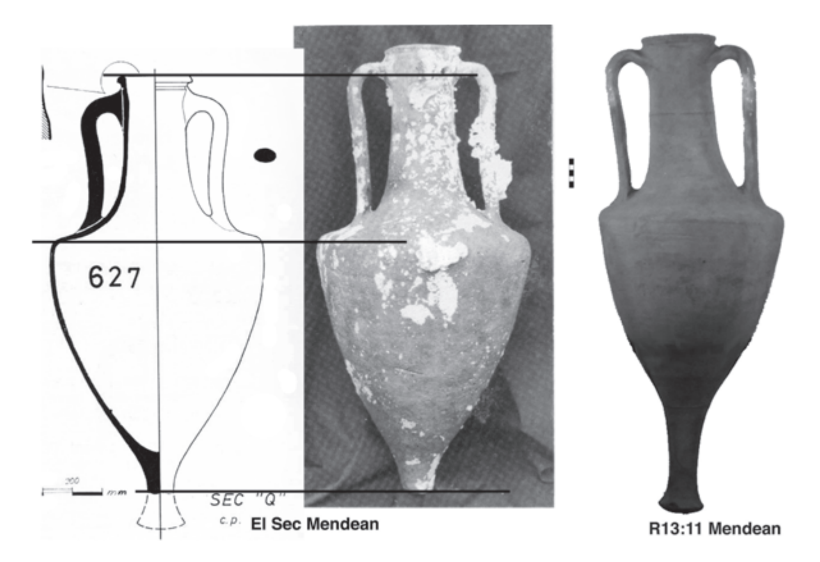


Fig. 4. Mendean amphora from R13:11 (a) and Mendean amphora from the El Sec shipwreck (after Cerdá 1987, fig. 126 and pl. 13, no. 627). (SS14826, photo courtesy of the American School of Classical Studies, Agora excavations).

ments with fill H17:5 which does include three Thasian stamps. B12:5 is the richest of these deposits and is dated early in the 3rd quarter of the 4th century by frequent comparisons to Olynthos.[105] D.M. Robinson published one bolsal with rouletting from Olynthos but no profiles showing the grooved foot; presumably both the decoration and the form were rare at that site.[106] This rarity may have partly resulted from patterns of Olynthian imports or interests among local potters selectively imitating Attic details. Three points, however, encourage the conclusion that bolsal rouletting began shortly before 348: 1) the broad similarities between the Attic deposits and what *is* found at Olynthos, 2) the apparent rarity of rouletted bolsals at Olynthos, and 3) that the rouletting and grooved feet do appear first in these Agora contexts with Olynthian parallels. Bolsal rouletting, therefore, should be dated very near the destruction of Olynthos in 348. The El Sec bolsals show full rouletting, a grooved ring foot, and black bases, and they generally appear even more developed than the Agora grooved-foot bolsals.[107] The black-glaze sequence, then, encourages a date closer to 340 (or later) for El Sec. The Maussolleion amphora and the complete example from R13:11, however, keeps the El Sec Mendean jar before c. 360.[108]

The Thasian amphora stamp sequence, now, may be coordinated with these other sequences. D19:1 and J13-14:1 share the same stamp, dated by Garlan's chronology to the 380s, and both deposits sit at the start of the sequence, close to, but earlier than U13:1. H12:11, the deposit placed just after U13:1 and with



Fig. 5.
Bolsal from U13:1 (P30615, photo courtesy of the American School of Classical Studies, Agora excavations).

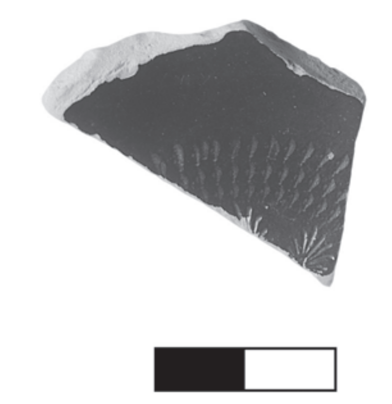


Fig. 6.
Rouletted cup skyphos base from H12:11 (P14271, photo courtesy of the American School of Classical Studies, Agora excavations).

the Agora's first case of rouletting, has a stamp of Aristomenes as eponym. Garlan places this stamp in Group C, in the 370s BC.[109] Then H17:5, where there is extensive rouletting, includes three stamps, all of which replace the eponym with a subsidiary symbol, belonging to Garlan's Group F1, dated to 360-350.[110] The connections through finewares between H17:5 and Olynthos fit well with Garlan's date for these stamps.

High vs. Low

So far, however, our only independent dates for amphoras are provided by the Maussolleion jar at no later than 353 and by the finds in R13:4 as dated by the Rheneia pit parallels and the likely connection to the 426 earthquake. These widely spaced "fixed points" for the amphoras leave considerable room for movement in all the chronological sequences just described. And yet, the addition of Olynthos (even without amphoras there being so useful) and constraints brought on by the extent of development between deposits just discussed limit the possibilities just enough to allow a decision between the higher and lower Thasian chronologies (transition date at c. 340 or c. 330-325). Three problems in particular emerge when the transition date is moved earlier from c. 330-326 back to c. 340 (Table 2).

First, near the beginning of the sequence of deposits I have been describing, the Mendean amphora development in the last three decades of the 5th century and the earliest decade or two of the 4th seems very compressed. This is perhaps an overly subjective assessment and rates of amphora development do vary through time.

The second problem, too, depends in part on one's views of stylistic development. In the higher chronology, the red-figure painter styles and the black-glaze decorative styles attested at Porticello, D19:1, and U13:1 now become late 5th to very early 4th century styles. Such a position crowds backwards the finewares from Himera in Sicily (sacked and abandoned in 409), from the grave complex of the Lacedaimonians in Athens (c. 403), and from the Dexileos cenotaph precinct (c. 396), and the red-figure dates derived from late 5th century sculpture.[111]

The third problem occurs later in the sequence. The cluster of three Group F1 Thasian stamps in H17:5 makes it likely that the bulk of the finewares, too, should be close to Group F1. And yet, using the higher date for the Thasian transition H17:5 is now 20-25 years earlier than the very similar deposit B12:5. B12:5 and El Sec must stay later on account of Olynthos – they cannot be pushed up by the transition date. Even though we are considering an earlier transition date here, the fixed number of Thasian eponyms in fact creates an excessive stretching of the fineware chronology for the first half of the 4th century. With a higher chronology, around six decades would be required to move from proto-rouletting to rouletted bolsals, as compared with roughly four decades or less – a more likely gap – in the lower chronology.

(Dates for Thasian groups in column 1 roughly follow Garlan 1999; dates in column 2 are derived from Garlan's ordering and numbering of the Thasian eponyms)

Italicized points are independently dated: R13:4 by Rhenia trench parallels and earthquake in Attica; Maussolleion amphora by likely construction period for Maussolleion of Halikarnassos which provides a precise parallel for the complete Agora jar.

* Gap between Porticello and Alonnesos seems too narrow for the amphora forms.

**H17:5 should sit closer to Olynthos and to B12:5, but must stay very near Thasian Group F1.

→

Table 2. *Late and Early Dates for the Thasian start and transition.*

	Transition c. 330 or later	**Transition c. 340 or earlier**
430-425	*R13:4 Mendean amphoras c. 430*	*R13:4 Mendean amphoras c. 430*
425-420		
420-415		R11:3 Mendean
415-410	R11:3 Mendean	Alonnesos wreck
410-405		**Thasian Group A**
405-400	Alonnesos wreck	Thasian Group B; Porticello wreck w/proto-rouletting * J13-14:1; D19:1 w/proto-rouletting
400-395		Thasian Group B U13:1
395-390	**Thasian Group A**	Thasian Group C H12:11 w/rouletting
390-385	Thasian Group B; Porticello wreck w/proto-rouletting J13-14:1; D19:1 w/proto-rouletting	Thasian Group C
385-380	Thasian Group B U13:1	Thasian Group D
380-375	Thasian Group C H12:11 w/ rouletting	Thasian Group E
375-370	Thasian Group C	Group F1
370-365	Thasian Group D El Sec Mendean	Group F1; El Sec Mendean H17:5 with rouletting **
365-360	Thasian Group E *Maussolleion amphora c. 365*	*Maussolleion amphora c. 365*
360-355	Group F1	
355-350	Group F1; H17:5 with rouletting;	
350-345	*Olynthos destruction*	*Olynthos destruction*
345-340	El Sec bolsal rouletting; B12:5 with bolsal rouletting	**Thasian transition date**; El Sec bolsal rouletting; B12:5 with bolsal rouletting
340-335		
335-330		
330-325	**Thasian transition date**	

PNYX III

My starting points for the foregoing discussion were the two deposits initially used by Grace in proposing a late 5th century date for the Thasian chronology. Their significant role in the development of the Thasian chronology necessitated the detailed consideration of these fills above. For the same reason, the date of Pnyx III and how that fill might fit with the conclusions just offered also deserve further attention. The following discussion is based on a review of the excavation notebooks, the catalogue cards for the amphora handles, the handles themselves, and an unfortunately cursory reconsideration of the remaining stored, unpublished context pottery.[112]

Of primary importance to any discussion of the Pnyx finds is the problematic nature of the Pnyx III fill. The presence of 3rd–century AD pottery deep within trenches abutting the massive terrace wall of Pnyx III has already been addressed by Susan Rotroff as intrusion from attempts to rob stones from that terrace wall. Rotroff, however, also notes the presence of independently datable Hellenistic material, including stamped amphora handles, from areas that are conceivably part of the third phase fill. For example, Grace's no. 29, an early Thasian stamp with the eponym Damastes, was found in the same general area (Trench A, 7-12 m south of the terrace wall 2-3 m deep) as no. 183, a Knidian stamp with the early 1st century BC eponym Aristainos (same trench, 10-13 m from the wall at the same depth).[113] Likewise, no. 38, an early Thasian with eponym Isagores, is described as coming from the "surface – 1 m" depth in trench C, a context described in the notebooks after review of the pottery as "mostly Greek" (i.e., also containing Roman pottery). Especially difficult for the idea that Pnyx III marks the end of old-style stamping is the presence of a new-style stamp in the fill. No. 67, an unrestored new-style stamp (with a query as to its belonging to Pnyx III in Grace's publication, but with no such query on the catalogue card)[114] with an alabastron, for which the position of the extant letters relative to the device may require the restoration of either Aristophanes II or Chaireas.[115] Most problematic, however, are the two latest old style stamps reported as Pnyx III Assembly fill. The earlier of these, with the old-style eponym Pythion and device of Heracles as crouching archer, was found in excavations of October 1932. While areas of the Assembly Fill were cleaned and excavated further in this month, there is no precise record of where artifacts were found. Many other stamps from this same month's excavations, listed as being from Assembly fill on the catalogue cards (the only extant record of their findspot), are fully Hellenistic (Sinopean and Rhodian).[116] The latest old style stamp, Aristokr( ) with wheel device, is recorded in the excavation notebook, but it comes from excavations of the upper terrace gate area *not* from the Assembly area fill. The latest Thasian old-style stamps securely from the Assembly fill are those of the eponyms Damastes and Panphaes (17-18 years before the transition to new-style stamping according to Garlan's [1999] ordering of the eponyms).[117] In terms of the

available documentation, then, and using Garlan's chronology, the Thasian stamps offer a *terminus post quem* in the early to mid 340s for the deposition of the Pnyx III assembly fill.[118]

In addition to these problems of findspot, one other point concerning the Pnyx III fill has been largely overlooked. There is no other fill in Athens with so many old-style Thasian stamps. From 30 Agora deposits I have studied in their entirety closed between c. 390 and 300 BC, there are only *four* old-style Thasian stamps (including the three discussed above and one from a later 4th century deposit) and ten new style stamps. These deposits include 19 well or cistern fills, six pits, three drain channel fills, one relatively small construction fill, and one bedrock cutting. Even the large later Hellenistic building fills (e.g., the fills for the Middle Stoa and the Stoa of Attalos) rarely included old-style stamps as residual material.[119] Regardless of the problematic identification of certain stamps as "building fill", the Pnyx III fill must have included a huge mass of debris from precisely the period of old-style Thasian stamping. This requirement may be deduced from the general rarity of the stamps even in large contemporary fills, fills with plenty of other amphora fragments, and hence the need for a very large "sample" to end up with so many such stamps in the excavated trenches. Furthermore, this mass of fill must have been deposited in this location at roughly the same time as its collection or else the old style Thasian stamps would have dispersed to being a minor presence here just as they are in other large fills deposited in later periods; the later Hellenistic and Roman pottery need not force a post-4th century date for Pnyx III.[120]

Is it then possible to narrow the date of collection and deposition of this "huge mass of debris" from "the period of old-style Thasian stamping" to either c. 355-342 (the period of Euboulos' control of the Athenian Theoric fund) or c. 338-326 BC (the Lykourgan period) and thereby settle the lengthy historical debate as to the "financier" of Pnyx III? The ceramic evidence apart from the amphora stamps leads to similar conclusions as have been just drawn from the amphora in terms of the nature of the accumulation and its date near the mid 4th century. The numismatic evidence inclines towards the later date; however, this conflict may be reconciled by further attention to the excavation records for the coins and the current foundations of the coin chronologies.

While detailed publications were produced for the red-figure pottery, lamps, loomweights, and black-glaze pottery; coarsewares from the Pnyx III fill have never been published in detail. The red-figure pottery was described as quite fragmentary, with no mends found between pieces, but generally datable within the first half of the 4th century. The latest fragment, and the only one thought to date later than c. 350, was attributed to the Filottrano painter. Talcott, Philippaki, and Rotroff all place the fragment "early in the 3rd quarter of the 4th century" and examples of this painter's work are found at Olynthos.[121] There have been attempts to lower the date of this painter's career into the late 4th century, but the current consensus seems to keep his activity

within the 3rd quarter of the century.[122] The "fragmentary" characterization of the material also deserves some qualification. Although mends were not found, the fragments are at times quite large.[123] Material gathered from various "new" debris piles in the area, then combined to form the Pnyx III fill, then sampled in a series of trenches (i.e., leaving large parts unexcavated), might well no longer preserve joins within the recovered fragments. The black-glaze pottery is generally characterized as typical of the middle to third quarter of the 4th century. In terms of the black-glaze sequences already discussed in this paper, it is notable that bolsals with grooved foot are the dominant form for that vessel, and this feature seems typical of fills closed c. 350 or slightly later (as discussed above).[124] The lamps, by all accounts, show some development beyond forms seen at Olynthos.[125] The actual length of time past 348 is difficult to ascertain considering potential selectivity on the part of Olynthians as to what to import and what to imitate.[126] The loomweights from the Pnyx III fill itself tend to be fairly consistent in terms of typology.[127] And yet, since the Pnyx offers the only extensive discussion of loomweights from Athens, there can be no certainty as to the chronological parameters demanded by the Pnyx III fill group. On the whole, however, the ceramic dates fit very well with the revised assignations of Thasian stamps to the building fill and the latest dates of those stamps.

The numismatic evidence does not fit so well and remains problematic.[128] The most narrowly datable type discussed as helping to date Pnyx III is a double-bodied owl bronze coin. J. Kroll considers the type to have begun c. 338 in imitation of a silver series thought to start "in the 340s." The diameter of the Pnyx specimen at 13 mm is appropriate for both the earliest and middle types of the bronze series. And yet, the silver coins themselves seem to depend on the bronzes for their date, so neither chronology seems especially secure. As with the amphora stamps, the findspots of significant coins are also problematic. The double-bodied owl was found at a depth of 0.6 m at the "middle" of Trench A. The notebook description of work the day that coin was found casts serious doubt on the secure attribution of this coin to the Pnyx III fill: "The surface of the undisturbed fill appears to lie on the average 0.80 m deep, so that *no material so far secured can be used with assurance as evidence for dating*" (Pnyx notebook I, p. 12, Dec. 10, 1930, emphasis added).[129] The coins, therefore, begin to resemble more and more the latest old-style Thasian stamps and single new style stamp attributed to the Pnyx III fill, i.e., the coins too constitute marginally later material found in unreliable contexts.

The archaeological evidence may be summarized as follows. There is an undeniably large mass of early to mid 4th century ceramic material continuing into the 340s. In addition to the many amphora handles, there must have been even more fragments of amphoras themselves to go along with other coarsewares, lamps, finewares, and loomweights. While much of the debris would be appropriate as debris from common houses (such as were found in the vicinity),[130] there are also pottery and figurines appropriate to ritual

activity.[131] After this material there is a fairly consistent smattering of debris from the later 4th century and later.

One explanation for a large mass of mid-century debris, apparently not so far removed in space or time from its point of origin, may be drawn from an unfortunately oblique reference to expropriation (?) of houses and other property on the Pnyx hill late in 347/6.[132] Recent commentary on this text suggests that the buildings and cisterns involved were largely derelict and out of use. Perhaps a more conservative interpretation of the passage is to read here an expression of the Boule's (and then the Areopagos council's) renewed interest in the Pnyx area as they began to consider renovations to the old Assembly area. Debris from these and other buildings might then have been brought together to form the core of the new Assembly place fill. J. Camp has argued that the masonry style of the great curving retaining wall also fits well with this date.[133] The later 4th century material might well have been deposited as work continued intermittently after the construction of the retaining wall and the deposition of the main body of the fill. Building activity in the area continued perhaps as late as the early 260s once work stopped on the stoas (incomplete) and the "compartment wall", a section of city wall overlying the stoa foundations.[134] Reconsideration of the archaeological evidence for the date of the start of the Pnyx III construction inclines towards assigning Euboulos as its initial patron probably between 346 (the date of the expropriations) and 342 (the end of Euboulos period in power).

SOME FURTHER IMPLICATIONS: AEGEAN INFLUENCE ON PONTIC CHRONOLOGIES

Pnyx III alone tells us very little despite its high profile in amphora studies between the 1940s and early 1990s. And yet, many other deposits earlier than Pnyx III, artifacts other than Thasian stamps themselves, and the chronological sequences of these related artifacts can all be used to build a case in favor of the c. 330-325 transition date for Thasian stamps. When this case is combined with Avram's and Garlan's arguments working backwards from Koroni, the possibility of floating eponyms pushing that transition closer to 340 becomes that much more unlikely. Such a late date for the transition from old to new style stamping, however, does not indicate a late date for Pnyx III. According to the extant records, the latest Thasian stamps in that building fill predate the transition by 17-18 years. For this reason, far from providing an independent "fixed point" for the Thasian chronology, the Pnyx III fill takes its date c. 345-342 from the Thasian dates, red-figure pottery dates, and textual references, whose chronological strength is derived from how well they fit with the reconsidered archaeological evidence.

A much more specific point returns us to the Black Sea. I have just proposed that the isolated Mendean amphora on the El Sec ship was roughly

20-40 years old when that ship sank. The other jars on that wreck found in multiple examples as well as much of the black-glaze and red figure finewares are datable after 350. It seems likely that the Mendean jar was simply a bit of cargo left over from earlier ventures or an old jar, in a state of re-use, picked up along the ship's likely quite circuitous voyage. Even in a closed deposit, therefore, there can be much earlier pieces; this is seen all the time in closed deposits on land but shipwrecks are often claimed to offer greater precision. Another isolated find at El Sec is the often cited Sinopean stamped handle and upper part of a jar with the Group Ib eponym Endemos and the fabricant Timorios.[135] This eponym tends to be placed near the beginning of Sinopean stamps naming the eponymous *astynomos*, and the El Sec wreck is often cited as providing a date for the start of this chronology. Given the situation with the Mendean jar, it becomes difficult to use the closing date of the El Sec shipwreck to assign a starting date for Sinopean eponym stamps on the basis of this isolated case. Here again we might have a case of re-exportation or even an old broken fragment in the cargo area of the ship. Conovici's date of c. 355 does, it turns out, work fairly well with a c. 340 or slightly later date for the wreck, but the wreck itself cannot offer much support. By the same reasoning, however, the wreck cannot be dated by the Sinopean handle.

A final point brought out by the foregoing discussions of Agora deposits and the Pnyx excavations in particular is the need for detailed reconsideration even of long ago published and well-known points of reference. Even apparent "facts" such as the attribution of a particular amphora stamp to a particular building fill can turn out to be too uncertain to support the conclusions that have come to be placed upon them.

Notes

1 I am most grateful to the organizers for the invitation to speak at the conference in Aarhus. The research for this paper was made possible by a fellowship to the American School of Classical Studies provided by the National Endowment for the Humanities. This paper has benefited greatly from comments following its presentation in Aarhus; remaining errors of commission and omission are my own responsibility.

2 E.g., Morel 2000, 13. The same view is implied by those who desire different specialists to work independently to arrive at "objective" dates for strata. The frequently expressed view that analyses of clays should be carried out "blind" has also been criticized as naïve to the realities of how best to achieve progress in that field as well (Whitbread 1995a, 97-99).

3 Given the vast bibliography relevant to transport amphoras from Pontic sites it might seem perverse to summarize only the current state of knowledge from an Aegean-Mediterranean perspective with only minimal reference to Pontic bibliography. Two considerations, however, encourage just such an approach in this paper. First, isolation of this evidence, even in the selective fashion necessitated here, offers one "Aegeanist's" version of significant points and might therefore serve as a point of entry into the non-Pontic bibliography. Second, much of the

evidence for absolute chronologies for non-Pontic amphora types depends on Aegean evidence even if Pontic archaeology provides a great mass of evidence for relative chronologies (see contribution by Monachov to this volume).

4 The studies in question are Avram 1996 and Garlan 1999a; the review is part of Lawall 2001a.

5 Avram 1996; cf. Debidour 1998, 400-401.

6 Garlan 1999a.

7 Finkielsztejn 2001 (with references to all earlier iterations of his "*chronologie basse*"); and Finkielsztejn 2000b for later Rhodian stamps. For Grace's statements on the Rhodian chronology, see in particular Grace & Savvatianou-Petropoulakou 1970, 289-302; Grace 1974; and 1985, 7-13. A clear presentation of Grace's chronology is presented by Empereur (Empereur and Hesnard 1987, 18-19; Empereur 1990). Study of the earliest Rhodian stamp periods is hampered by scarce publications of the major assemblages, especially those on Rhodes itself, and problematic identifications of earliest Rhodian amphoras and stamps (as opposed to amphoras from Knidos or other nearby regions).

8 Grace & Savvatianou-Petropoulakou 1970, 317-324; Grace 1985, 13-18; summarized by Empereur & Hesnard 1987, 20-21; Koehler & Wallace Matheson (forthcoming). Jefremov (1995) offers a much different chronology, but he did not take account of the much wider range of Aegean and Mediterranean evidence available to Grace and Koehler. For a skeptical view of Jefremov's chronology, see Empereur & Garlan 1997, 181-182.

9 Koehler 1978. I use the term Adriatic Greek to refer to Corinthian Type B. Although kilns for these amphoras are now published from Corcyra (Preka-Alexandri 1992 and Kourkoumelis 1990), there are strong indications of production of similar jars elsewhere along the Greek and Albanian Adriatic coasts, see Ceka 1986, esp. 83 and 89 with pls. 7-9; Desy 1988, 414; Andreou 1990; Bereti 1992, esp. pls. 2-3; and Joehrens 1999, nos. 22 and 23.

10 Grace & Savvatianou-Petropoulakou 1970, 363-364; Grace 1985, 18; Börker & Burow 1998, 60-62 and 112-115; Jöhrens 1998, 252-253, and very brief discussion of the problem of the Koan chronology in Empereur & Hesnard 1987, 22. Disparate references to associations between Koan stamps and other datable artifacts have never been synthesized into a statement on Koan stamp chronology.

11 The earliest consistent findspots for Chian name stamps are associated with the Roman attack on Eretria in 198: Ikesios was found in a house thought destroyed in 198 (*Eretria* X, 87-89 and 245, no. 22); Erm( ) was found in a drain filled after 198 (*Eretria* X, 243, nos. 2-3). Agora contexts cited by Grace (Grace & Savvatianou-Petropoulakou 1970, 361-362 and Grace 1956, 166-7) indicating a 3rd century starting date for Chian name stamps are now dated as closing no earlier than c. 190 BC: M21:1 (*Agora* XXIX, 461-462) where the latest Rhodian stamp carries the eponym Kallikratidas II, dated by Finkielsztejn 2001, 192 to c. 175/173 BC; Q8-9, with latest Rhodian eponym Ieron I (Finkielsztejn 2001, 192, c. 186; and see *Agora* XXVII, 155, *Agora* XXIX, 469) and the latest Knidian Philophr(on) (Grace 1985, 23 note 60 suggesting a date not long after 188); O20:2, also with Rhodian eponym Ieron I; N20:6 with the latest datable artifact being a coin of c. 196-190 (*Agora* XXIX, 464). The well at Kophina on Chios, initially dated as closing c. 250, more likely closed within the 2nd century given revisions to the date of Thompson's Groups B and C (Anderson 1954, 144-159, especially 159). The only two contexts with Chian name stamps with claims to early 3rd century dates are not sufficiently discussed in their respective publications to permit any evaluation of the accuracy

of those dates (*Eretria* II, 27 and 65, nos. 3-4 naming Ikesios; Jöhrens 1998, 250, no. 858, naming Philisteus).

12 Monachov 1999a; Lawall 2002b; Monsieur 1990; Lazarov 1973, 7-16, nos. 40-63 provides many illustrations but none are independently datable; and Lazarov 1982, 10-12 for 4th century Chian. "Chronique des fouilles en 1957" (759, figs. 7 and 8) illustrates a Chian amphora from a tomb in Thessalonike and the accompanying late 4th century black-glaze pottery.

13 Monachov 1999a and 1999b; Lawall 2002b; Papadopoulos & Paspalas 1999; for earlier northern Greek amphoras Schmid 1999; Lawall 1995; 1997; and cf. Kantzia 1994 followed by Empereur and Garlan 1997, 180 (who then, without argumentation, attribute to Kos the Mendean jars from Porticello; though of course in their short review there was not room to defend such a reattribution) raising the possibility of quite distant production of a similar form.

14 This general type includes many subdivisions of form and fabric and, not surprisingly many labels have emerged over the years (Solocha I, Ust'-Laba type, and the misnomer "Greco-Italic"). Since profiles published under such labels in the past are now emerging as identifiable series on their own, it seems preferable to use a more generic term for the class (mushroom rim) and specific geographical or fabric-based descriptors for individual types.

15 This is the type dated by the Kyrenia shipwreck to c. 300; however, note that the two legible coins from that wreck permit, even encourage, a date later than 300 (cf. Morel 2000, 13; Finkielsztejn 2001, 48 note 53; among others who use this largely unpublished wreck as a fixed point).

16 This form is published from Gela as dating shortly before the sack of that city c. 282 (Orlandini & Adamesteanu 1960, 197, fig. 22a); unpublished examples from Athens appear near the same date; and from a slightly later context, see Schmid 2000a, fig. 188, no. 69.

17 Lawall 1999, 191-192 (note that it is now clear that most of the pieces I referred to as "heavy ring toe" in 1999 belong with the "banded rim"); Kossatz 1985, 189, no. 25; Raeck et al. 2000, no. 17.2.

18 The type Dressel 24 is most often dated from the 1st c. AD and later; however, a clear predecessor of the 1st century AD form exists by the late 2nd century BC and can be traced earlier as well. In general, see Užencev & Juročkin 1998; and see Finkielsztejn on material from Marissa (2000a, 210-211 arguing for a Chian provenance, but the type is labeled as Dressel 24 in his forthcoming report on the Marissa amphoras; Hayes & Harlaut 2001, 113, note 10, no. 35, fig. 69 referring to K. Senol advice attributing the type to Erythrai on the basis of finds from workshop sites (see Özyigit 1989, especially fig. 5 and pls. 4-5).

19 Frequent examples appear in the region of Thessaly and Eretria, see Reinders 1988, fig. 114 no. 34.02 from the House of the Coroplast a New Halos; Metzger 1990, fig. 11 nos. 157 and 162; Metzger 2000, fig. 173 nos. 1, 6, 7 and fig. 174 nos. 2, 8, 9; Schmid 2000a, fig. 188 nos. 67-68 many in contexts datable before c. 260 BC. This form may be related to the Solocha II form, now associated at least in part with workshop debris on Peparethos and Ikos (Doulgéri-Intzessiloglou & Garlan 1990). These 'Thessalian' area jars share with the Peparethan-Ikian jars a tall neck, rounded rim, handles attaching near the rim, and thumb-prints at the bases of the handles. The Peparethan-Ikian jars are not included in this survey of datable 4th- through 2nd century amphoras since the chronological span of their production in the 4th century is not known.

20 For these Brindisian-like amphoras, see examples from Thessalonike (from a poorly datable context from the 1st century BC and later, Adam-Veleni et al. 1996, fig. 18), Pella, from debris resulting from an early 1st century BC earthquake (Chrysostomou 1996-7, 226 and fig. 62), Athens (Grace 1979, fig. 38, third from left; the type appears often in Sullan sack contexts; and then, much later, a fractional example from *Agora* V, J50, 3rd c. AD), and Marissa (Finkielsztejn 1999, fig. 111b seems to belong with this non-Brindisian group) – the fabrics differ from published descriptions from Adriatic Italy and from fabrics of stamped Brindisian handles; and the sharply modelled rim profiles too are unattested among the Brindisian finds (Palazzo 1989 and 1990; Manacorda 1990).

21 For grooved rim amphoras see Tekkok-Biçken 1996, 13-14, pl. 1b; Hayes 1995, 181, figs. 5 and 6; Lawall 1999, 192, no. 77, fig. 13; Panas & Pontes 1998, 224 and 236, figs. 1 and 2, though note that further stratigraphic study after 1998 revealed that this amphora type should be limited to the later 2nd and early 1st centuries BC instead c. 300-100. I thank Chryssa Karadema for showing me extensive material attributable to Ainos (modern Enez); the fabrics of the late Classical material from Enez closely resemble the fabrics of these later Hellenistic amphoras. For the Nikandros group the most extensive discussion so far available is Gassner 1997, 107-108; see too Cankardas Senol 2001 and Lawall (forthcoming).

22 A bibliography of Pontic assemblages providing chronologically significant synchronisms would fill many pages: a selection includes Conovici 1989, Monachov 1999a; Garlan 1999a; and Lungu 1999.

23 The most striking illustration of this phenomenon is the dependence of the Sinopean absolute chronology on the few rare occurrences of Sinopean stamps in Aegean or even western Mediterranean contexts as discussed by Conovici 1998, 50-51 with reference to the El Sec wreck (see further discussion below), the Valma well on Thasos (Garlan 1989; Blondé et al. 1991; Picard 1989 for the coins), and contexts from the Athenian Agora referred to by Grace 1985. The Pontic contexts (the tomb of the warrior at Vani and the Five Brothers tumulus at Elizavetovskoe derive their dates in part from the Sinopean stamps themselves; however, there is a coin of Philip II in the Vani burial, see Brašinskij 1984a, 139). The Agora contexts, too, depend for their dates in part on Grakov's (1929) chronology for the Sinopean stamps.

24 Grace 1985; Grace & Savvatianou-Petropoulakou 1970, see index pages 381-382; Grace 1974. Not one fragment without a stamp has been mentioned from this fill nor was a single such fragment ever inventoried. Despite the extensive attention to this fill, there is no published list of the stamps present. While items from other Agora contexts have been published, and while the contexts' dates have figured in the dates assigned to the published stamps, the Middle Stoa fill is the only deposit of the period c. 400-100 BC to have received extended treatment in print. Rotroff 1988 illustrates the need, even in this case, for careful distinction between sealed construction fills and later fills.

25 Grace 1985, 14-15 for the date; more recently Koehler & Wallace Matheson (forthcoming) use this building's construction to support Grace's Knidian chronology; for examples of treatment of 157 as a "fixed point" see Finkielsztejn 2001, 41; Empereur 1990, 202 and 207 where he includes 156 BC as the last year before the closing of the Stoa of Attalos fill. Kohl 2001, 253 uses a date of c. 150-146 with reference to the stamped handles (cf. Grace 1985, 14-15) and the coins; *Agora* XXIX, 468 uses c. 150 noting that the latest stamped handle is dated by Grace to c. 157; *Agora* XXVI uses c. 150 in the text but c. 157 in the deposit list and note that only

one Achaean coin might date close to the middle of the 2nd century or it may be much earlier; no Athenian coins are later than the early 2nd century, including types dated in part by the date of 183 BC for the Middle Stoa as derived solely from the stamped amphora handles(!).

26 Lawall 2001a, 534 on this deposit; cf. Avram 1996, 29; Garlan 1979, 249; Grace 1986, 556-557, indicating the context dates the stamps "before perhaps 285 BC", but cf. comments below – the stamps clearly date the context(!); *Agora* XXVII, 143-153, especially 144-145 gives the broader context of this and related deposits and the evidence for their date, but note the amphora stamps in Q10:1 constitute the latest closely datable material. The coins were minted no later than c. 295, but the likely latest stamp (Aischron I, in the "genitive group") should fall late in the 270s or early 260s (Avram 1996; Debidour 1986, 332; Garlan 1993, 168-169).

27 Rotroff 1984; the stamp is SS2618 with the eponym Deinopas. For Deinopas' date at 296 see Avram 1996, 54; Debidour 1986, 331 places Deinopas 325-310.

28 Vanderpool, McCredie & Steinberg 1962 is the primary report; Grace 1963 responds; Vanderpool, McCredie & Steinberg 1964 responds to both Grace and G.R. Edwards; McCredie 1966 puts the site in its broader context; Grace 1974 accepts the Chremonidean interpretation of Koroni. For the dates of the war, see Heinen 1972, 100-202 and Walbank 1984, 236-239; cf. Vanderpool, McCredie & Steinberg 1962, 59, basing their dates on Meritt 1961, 223-226.

29 Garlan 1993; cf. Avram 1996, 55, where the Koroni names are listed as ending in 260, but this was adjusted by Avram 1999b, 224; For the Rhodian dates, see Finkielsztejn 2001. The Zenon group stamps are not so precisely datable (see note 47 below).

30 S. Rotroff notes the unusual types among the finewares at the Koroni camp (*Agora* XXIX, 31-32) and Vanderpool et al. note the unusual abundance of Ptolemaic coins at the site (1962, 57); both of these points imply supplies from outside Attica. Likewise the amphora assemblage is poorly matched in Athens itself where early to mid 3rd century deposits are devoid of Rhodian, Knidian region, and Greco-Italic amphoras (this point is made by McCredie 1966, 12 and supported by my own research studying all saved amphora fragments from selected deposits dating between 525 and 86 BC; for similarities among various Chremonidean assemblages, see Varoucha-Christodoulopoulou 1953-1954). There is, however, nothing especially "Egyptian" about this amphora assemblage. Supplies from seaborne merchants seem indicated by this evidence. For further discussion of the provisioning of armies, see Descat 1995. On the need for wine in particular as nourishment for an army see Livy 37.27; I thank John Camp for this reference. Note that the often mentioned idea that the Koroni amphoras were in a state of re-use as water jars may have resulted directly from the problems of reconciling apparently early dates for the pottery as compared with the historical dates for the camp (Grace 1963, 327; Vanderpool, McCredie & Steinberg 1964, 74; McCredie 1966, 12; Grace 1974, 197).

31 Robinson 1950, 426-431; similar stamps are published by Garlan 1989 and Peirce 2001.

32 See especially Whitbread 1995b, 36; Papadopoulos & Paspalas 1999, 177-180; and Lawall (forthcoming), "Nothing to do with Mendaian amphoras…?"

33 Garlan 1979, 1985, 1986, 1989, 1990a, 1993 and 1999a; Blondé et al. 1991; Grandjean 1992;

34 For reference to a *terminus post quem* of 294, see Debidour 1986, 313; Avram 1996, 31 and Garlan 1990a, 481. Note that we do not know precisely when Demetrias

was founded; there is no direct evidence for a narrower date of foundation in the ancient references, see Stählin, Meyer & Heidner 1934, 178 note 5. For the published stamps from Demetrias, see Beyer, von Graeve & Sinn 1976a and Henninger 1976. The specific evidence for dates of stamps from the Demetrias excavations should be checked on a case-by-case basis since stamps found stratified, for example, contemporary with or later than the construction of the Anaktoron may more likely date from the late third century (Beyer, von Graeve & Sinn 1976b, 88-89 attributed the palace construction to the late 3rd century; not to the initial foundation of the city in the 290s).

35 Schmid 2000a.

36 Akamatis 2000, 17-20 and 219-220. Both wells included coins of Antigonos Gonatos and the later well included a Rhodian amphora stamp of the eponym Onasandros (dated by Finkielsztejn 2001, 191 to c. 219 BC).

37 Tekkok 2000; Lawall 1999, 191; Berlin 1999, 146-147; Aylward 1999, 175-176.

38 See note 11 above concerning the Chian chronology and the Eretrian evidence. This paper was not able to take account of E. Schönenberger and M. Palaczyk's study of amphora stamps at Eretria, now fully presented in *Eretria* XII.

39 Harris 1941, 156, fig. 1 and 158 for discussion of coins from the interim period; Grace 1953, 119, note 7 accepting but downplaying the presence of stamps dating after 146 at Corinth; Williams 1978, 21-23 lists the inventory numbers, but not the names, for Knidian stamps dated by Grace to the interim period; for general discussions see Wiseman 1979, 491-496; Romano 1993, 12-13; Romano 1994; *Corinth* XVIII.1, 4; and Walbank 1997 and 2002.

40 Cf. Finkielsztejn 2001, 41; Empereur 1990, 202; Grace 1985, 19 note 46; Grace 1974, 198 note 21. The potentially problematic archaeological circumstances of these stamps are not mentioned in print but are discussed in detail in Grace's files. Rotroff's (1988) discussion of the need to distinguish true construction fill from later fills – problematic in that case even in the context of a rigorously controlled and recorded excavation – should signal ample warning for anyone placing much dependence on the Stoa of Philip material especially given the complex architectural history of this building (see Vallois 1923, esp. 154-166 for evidence for the dates of construction activity).

41 Bruneau 1980; cf. Marcadé 1954 and Grace & Savvatianou-Petropoulakou 1970, 366.

42 For a recent discussion of stamps from Carthage along with references to earlier research and lists of names, see Jöhrens 1999.

43 These dates follow Finkielsztejn 2001. There is considerable debate over the impact of Jewish law on daily lives especially in the wake of the Hasmonean expulsion of the Seleucid garrison from Jerusalem and following the various conquests of John Hyrcanus, see Finkielsztejn 2001 and 1999; Ariel 1999 and 1990; Cohen 1999, especially 110-119; Gruen 1998, 1-40; on the difficulties of the archaeology of Jewish laws on purity see Wright 1997. Events surrounding Marissa have been long debated from the standpoint of the scanty textual evidence (e.g., Rappaport 1969, Goldstein 1989, Kasher 1990), and Finkielsztejn's (1998a) and Barag's (1992-3) enlistment of archaeological evidence considerably reduced the remaining uncertainties (Sartre 2001, 389-390; cf. Kloner 2001).

44 Athens: *Agora* XXIX, 34-36; Rotroff 2000; Vogeikoff-Brogan 2000; Ilion: Hayes 1995; Tekkok-Biçken 1996; Eretria: Schmid 2000b; Halae: Coleman 1992, 276; Carr 1992, 282; Coleman et al. 1999, 310-313; there is also an early 1st century destruction at Pella (Akamatis 1993 and 1989; Chysostomou 1996-97). Athens provides so

far the widest range of deposits of this period; however, many of these were not actually closed until some years after the sack by Sulla (see discussion in *Agora* XXIX, 35-36; Vogeikoff-Brogan 2000, 295-296).

45 For Porticello, see Eiseman & Ridgway 1987; Gill 1987; Parker 1992; Lawall 1998; Monachov 1999a; Gibbins 2001 (though note that if Gibbins accepts the date I suggested for the Tektas Burnu shipwreck and the date for the Halonessos wreck based in part on my discussions of Mendean chronology, it is difficult to understand his acceptance of Gill's early date for Porticello). For El Sec, see Arribas et al. 1987 and Rouillard & Villanueva-Puig 1989; Parker 1992; Morel 2000, 13. In my discussion of this wreck below I treat the material as a single wrecked cargo, but the reader should bear in mind the possibility (raised but ultimately rejected by Morel, see discussion in Rouillard & Villanueva-Puig 1989, 138-141 and Morel 2000, 13) of multiple wrecks at or near the same site.

46 There are numerous descriptions of the wreck, the ship and its cargo; particularly useful are the first two preliminary reports in *Expedition* (Katzev 1969 and 1970a). Note that the latest coin might not have been minted until the early 290s; there is no external reason for dating the ship c. 300: the 290s or even early 280s seem possible.

47 Grace 1986; Pulak & Townsend 1987, 43-49; Koehler & Wallace 1987, 49; Empereur & Tuna 1988; Gibbins (2001, 302) writes "other pottery shows that the wreck is too late [suggestions going as late as c. 275]." According to Empereur and Tuna, the date of the wreck is unknown pending the study of the other pottery; however the only closely dated fineware on the wreck, a west slope style kantharos, may be simply somewhat older than the main cargo. The Thasian jar stamped with Pythion V may date to c. 310-300 by Debidour's new style chronology published in 1986; however the downdating of the transition to new style stamps from c. 345-340 (Debidour) to c. 330-325 (Garlan) may place Pythion V nearer to 285; Avram 1996, 54 places Pythion V at 280. This singleton in the cargo, however, need not have been "new" when the ship sank and the cargo of Zenon-group jars from the Datça peninsula holds the key to the wreck's date of sinking. Although a full study of these jars and their stamps does not exist, it should be noted that the stamps on the wreck very closely resemble a significant group found at Koroni: the abbreviation ZH (Zenon?) with a second abbreviation. Given that the Rhodian and Thasian jars at Koroni are now dated c. 260s, it seems very unlikely that these "Zenon" jars should be earlier to any significant degree. Grace's card files include at least eleven "eponym" abbreviations accompanying ZH, and many of these were also reported by Empereur and Tuna from the Muhaltepe Sophanes workshop site (1988, 352-357). With this limited number of eponyms showing duplicates even with a relatively small number of known examples, the span of the practice must have been fairly limited. Given that the Koroni Zenon eponyms are no later than 261 and admitting the possibility of ZH-FIL being 15 years earlier, the wreck would date near 275. It seems more likely, however, that both the Serçe stamps and the Koroni stamps are somewhere within the series rather than at its extreme ends, hence a date for the wreck somewhere between the late 270s and the mid 260s. The earlier dates for the other finds on the wreck militate against a post-Koroni date.

48 The only later Hellenistic wrecks explored and published with any thoroughness are from the western Mediterranean and only include isolated Aegean amphora types. While such associations between western Mediterranean amphora types and Aegean types are useful for establishing the chronology of the former, they

have played little role in the study of Aegean chronologies. Wrecks including stamped Rhodian jars include Apollonia B, Grand Congloué 1, and Lazaret; wrecks with Aegean amphoras but without stamped jars include Capo Graziano A, La Chrétienne C, Marzamemi G, Pozzino, San Ferreol, and Spargi. For thorough references and summary discussions of these and others, see Parker 1992 and Gibbins 2001.

49 I have not seen the primary publication of this site, only the summary provided by Parker 1992, no. 48. For the career of Drakontidas, see Finkielsztejn 2001, 135-136.

50 For Ariston as a period III eponym and fabricant, see Börker & Burow 1998, and for the date of the eponym, see Finkielsztejn 2001, 192.

51 Grace 1946, 31.

52 Grace 1956, 122-123; cf. Garlan 1999a, 39 and 49.

53 See Lawall 2001b and 2002a for this developing argument.

54 Grace & Savvatianou-Petropoulakou 1970, 322. Knidos may have surrendered peacefully to Mithridates in 89 or 88 (assumed by Magie 1950, 215); according to Plutarch (*Luc.*, 3.3) Lucullus had to persuade (*epeise*) the Knidians to assist the Romans against Mithridates, implying an earlier allegience to the king. Appian's (*Mith.*, 23) list of unusually cruel treatments of Italians and Romans in 88 BC in response to Mithridates' order does not mention Knidos; however, it does seem reasonable to assume that Italians and Romans were killed there as well. Since the *andres* (*duoviri*) are all Greek there is no certainty either in their being killed during the massacres of 88, or in the cessation of Knidian amphora production at this time. If we could assume that Mithridates' order was meant to eradicate systems of tax collection and fiscal exploitation – an assumption persuasively refuted by R.M. Kallet-Marx (1995, 153-158) – then it might be possible to expand the violence to include local, non-Italian "collaborators". Recent debate as to the date of Mithridates' order to kill all Romans and Italians is presented by Kallet-Marx (1995, 154 with note 108); he prefers the traditional date of 88 instead of 89 BC.

55 Lawall 2002a.

56 This is not to doubt that the "Andres" are magistrates related to the Roman provincial administration (though the names are all Greek); the point is that 108 is not a historically fixed point. For the *terminus ante quem* of 100 BC for Knidian membership in the province of Asia, see most recently, Crawford (ed.) 1996, Law 12. Although including extensive discussion of the praetors and brief mention of quaestors (especially Knidos copy column IV, lines 40-42) in Asia including collection of taxes, there is no mention of local *duoviri*. Jefremov 1995, 59-60 discusses the wide-ranging roles of *duoviri* in better known contexts.

57 It is important to note, however, that Grace's explanation for the dates 108-88/86 do vary through the course of her publications, see Grace 1956, 150 where the destruction of Delos in 88 is the point of reference; in Grace & Savvatianou-Petropoulakou 1970, 322 the events reconstructed at Knidos in 88 and 85 (see below) are the points of reference along with secondary reference to Sullan contexts in Athens.

58 Siebert 2001, 134-141; and 1988, especially p. 761. The two eponyms from the abandoned storeroom itself are Hermophantos and Agia. For Hermophantos, who also appears twice in other fills on the floor in the same house, see Grace & Savvatianou-Petropoulakou 1970, 322 and E198, and Grace 1985, 33 queried as period VIB, i.e., before 86. For Agia, appearing twice in the storeroom, see

Grace & Savvatianou-Petropoulakou 1970, E81, there dated before 86. Siebert accepts Empereur's (unpublished) discussion of the dates of this material with the Knidian stamps dating no later than 78 BC; however, such a date is presumably dependent on Grace's assumptions about Knidian production during the period of Mithridates' aggressions. Various recent studies of building sequences on Delos have struggled with the distinction between 88 and 69 as the dates of major destructions and abandonments: for examples, see Brun 1999, Brun & Brunet 1997; Le Dinahet-Couilloud 1997; Hatzidakis 1997. Not surprisingly, all of these studies use Grace's dating scheme for the Knidian stamps despite the potential difficulties just noted. Jefremov 1995, 76-80 places the *duoviri* between 115 and 88 assuming extensive economic collapse in Asia Minor after 88. He dates Hermophantos near 100, an even more unlikely date in terms of the Delian evidence.

59 Of the main three deposits cited as Sullan sack contexts by Grace & Savvatianou-Petropoulakou 1970, 321, only M20:1 is considered fully pre-Sullan by Rotroff (*Agora* XXIX, 35) the other two, F19:3 and T27:1, are considered to include even late 1st century material (*Agora* XXIX, 36).

60 Debidour 1999 in fact uses the large number of stamps of Kleitos found at Pontic sites to argue for an earlier date for this name; for another recent comment on the drop in Thasian exports to the Black Sea, see Lazarov 1999, 196 placing the decline c. 300 BC.

61 The exception is the use of c. 275 for the abandonment of Seuthopolis; this date is based in part on numismatic evidence and on the dates of the amphora stamps (see Dimitrov, Čičikova & Balkanska 1984 and Dimitrov & Penčev 1984). For the vast range of Pontic contexts providing indications of *relative* order of the names, see Avram 1996 and Garlan 1999a; Lungu 1999 also provides important discussion of synchronisms requiring the near-contemporaneity of different Thasian names. For the *absolute* dates of the series these same authors turn to the Aegean or, quite often to associated Sinopean stamps, for which the absolute chronology remains a topic of considerable disagreement (Conovici 1998; the chart published by Fedoseev 1992, 149; cf. Fedoseev 1994 exemplify the range of difference of opinion).

62 Grace 1946.

63 These deposits have never been published in detail. They are summarized in *Agora* XII; D19:1 is mentioned by Rodney Young (Cistern in the area of Houses N and O, Young 1951, 253) and Moore published two red-figure fragments (*Agora* XXX, nos. 414 and 1653); J13-14:1 is mentioned in a footnote by T. Leslie Shear Jr. (1970, 191 note 59).

64 Garlan 1999a, no. 205; and see Avram 1996, 51, table 1. Grace (1956, 126) also mentions a stamp of Aristeides (SS1498) as being from an "early 4th century context." The context in question is a pocket of fill on bedrock immediately below, and perhaps even mixed with, Byzantine fill (Section H notebook, May 1 1933, 28-29/E). The small size of this context along with the Byzantine presence so close by make it less useful for dating the Thasian series. More recently on this eponym, see Lungu 1999, 73-75, cf. Garlan 1999a, 47.

65 Grace 1946.

66 Grace 1956, 123 with reference to Pouilloux's manuscript ahead of its publication in 1954 (the issue of Macedonian control of Thasos is addressed especially at pp. 431-434); see more recently Picard 1985 and 1997.

67 Talcott, Philippaki, Edwards & Grace 1956, 6; and more recently Rotroff & Camp 1996, 275. Note that in 1970 Grace wrote that Pnyx III is "dated by a quantity of Attic figured ware" (Grace & Savvatianou-Petropoulakou 1970, 355).
68 Talcott, Philippaki, Edwards & Grace 1956, 6.
69 Shear 1975; information on Grace's thought on this deposit come from reports filed in the Agora archives' deposit notebooks.
70 This development in Grace's thinking on the topic is made explicit in an unpublished report dated 27.viii.74, p. 7.
71 Grace 1985, 4-5 and 18 note 43.
72 Thompson & Scranton 1943; in the initial publication by Thompson and Kourouniotes (1932), the third phase was assigned to the Hadrianic period (see below).
73 Avram 1996, 24, note 48 (referring to Romano 1985) and 28, note 72 (referring to Thompson 1982).
74 Vanderpool, McCredie & Steinberg 1961, nos. 87-89, 95-97, 104-108.
75 A similar date has been proposed for the Rhodian stamps at Koroni, see Finkielsztejn 2001, 184.
76 Garlan 1993, 169, see his lists in the middle of the page. Names there in parentheses are not found at Kounouphia but for other reasons belong in the sequence. The eponym Pheidippos belongs to the rhyton group as do the Koroni eponyms Demalkes and Idnades, but it does not appear either at Koroni or at Kounouphia and is therefore assumed to be later than Koroni.
77 Debidour 1986, 330-332. The figure of 39 includes all of Groups I and II except Kleitos (now argued to be placed among the old style eponym, see Debidour 1999), all of III except Megakleides (at Kounouphia), and Thespon, Kephisophon, Kratinos, and Menedemos from group IV, and Aischron I from the genitive group.
78 Debidour 1986, 332
79 Garlan 1993, 169 places Kychris, Pythion VI, Satyros I, Philiskos and Chaireas before Koroni; Avram 1996, 30-31 and 1999, 218 includes Aristophon II and Autokrates (not on Debidour's list) as being before Koroni.
80 Schmid 2000a.
81 Avram 1996, 26: Amphandros, Argeios, Aristophanes II, Eraton, Hegisiteles, Herophantos, Hegisipolis, Kleophon III, Philisteides, Polykrates, Polytimos, Polyon, Satyros II, Satyros III; in the same lists Avram includes Evagoras, now shown to be pre-Koroni, see above. For Koukos, see Garlan 1979; for Vamvouri Ammoudia see Garlan 1986, 203-220; for the Silen Gate material, see Debidour 1979, 300-302, for group BA, see Garlan 1993, 170-174.
82 These deposits are mentioned by Garlan (1999a, 135), who asserts that they must date to the early 4th century. And yet, if chronology is the issue, and especially since these very deposits were fundamental to the early development of the Thasian absolute chronology, assertions as to their dates simply do not suffice; hence the remainder of this section.
83 Agora excavation notebook for section NN (there referred to as cistern in House H), pages 2676 and 2679-2681; no section drawings of the fill exist nor were any photographs taken once the cistern was emptied.
84 For the shift to marble working in this area, see Young 1951 as follows: House D, second phase, pp. 221-222; House H, p. 229, only slightly excavated but also showing debris from marble working in 4th century levels; House G, especially

pp. 235-236 for the 4th century marble working phase; House K, esp. pp. 243-244.

85 NN notebook page 3142.

86 The lamp from the upper fill is L4013, from the lower fill L4024; for type 23 C, see *Agora* IV.

87 On the Q-painter, see Beazley 1940-44; Ure 1943; Paul-Zinserling 1994; Geyer (ed.) 1996. The komast dancer is paralleled on the exterior of a stemmed cup from Spina tomb 893 dated to the second quarter of the 4th century (Curti 2001, 151-152, pl. 102, no. 6), and Spina tomb 862 of the same general date on a tondo (Curti 2001, 150-151, pl. 101, no. 4). Note that since this fragment was only found in the context pottery tin there is no surviving evidence for the level of its findspot in the fill. The latest previously published red-figure from this deposit was dated to the late 5th century (*Agora* XXX, no. 414).

88 For hastily impressed ovules as the forerunner of rouletting, see *Agora* XII, 30.

89 On the Fat Boy group, see Sabbatini 2000; a close parallel for the palmette decoration of the fragment from D19:1 is provided by a fragment from Lattes from a context of c. 375 (Py and Sabbatini 2000, 196, fig. 35.10); for the Eros see *Agora* XXX, nos. 762 and 763 both dated to the early 4th century and from Lattes from a context of 400-375 (Py & Sabbatini 2000, 185-186, fig. 17.2).

90 Agora excavation notebook for section Q pages 1030, 1039, 1224 and 1307. A note in the excavation notebook (p. 1225) quotes Brian Sparkes' opinion that the fineware pottery here dated to the late 5th century.

91 *Agora* XXV, 50, nos. 144-145.

92 *Agora* IV, type 24 A' (L1005).

93 *Agora* XXX, no. 1178 (P2248), there dated to the early 4th century.

94 Publications of these deposits especially relevant to the following discussion are as follows: R13:4, Talcott 1935, Lawall 1995 and 2000; R11:3, *Agora* XXVII, 139, 170, and 232 (with correction to *Agora* XII, 398), and Lawall 1995; U13:1, Shear 1975, 355-361, Lawall 1998, 20 fig. 5 and 2000; H12:11, *Agora* XII; R13:11, *Agora* XII; B12:5, *Agora* XII; S19:3 "Coroplast's Dump", see Thompson 1952, 120-164, esp. 121-122; H17:5, Corbett 1955, 185, no. 25 and *Agora* XII.

95 Alonnesos, see Hadjidakis 1996 and 1997; for Porticello, see Eiseman & Ridgeway 1987, Gill 1987, Lawall 1998; El Sec see Cerdá 1987 and 1989, Trias 1987 and 1989, and discussion published in Rouillard & Villanueva-Puig 1989. For the bothros at Halikarnassos, see *Halikarnassos* VII, 82-97, and for Olynthos, see Robinson 1950.

96 Oakley & Rotroff 1992, 53-57.

97 *Agora* XXVII, 140-141.

98 Hadjidaki 1996, 590 for the date of the Alonnesos wreck.

99 The jar is published by Cerdá (photograph and drawing are published in 1987, pl. 13, no. 627; pp. 469-470, fig. 126) and compared with the Porticello Mendean amphoras. The discrepancy between the photograph and the drawing seems too great to be accounted for by distortion from the camera lens.

100 *Halikarnassos* VII, A84, from Bothros A. I am very grateful to V. Nørskov for sending me an illustration of this fragment in advance of the publication of *Halikarnassos* VII; for the start of construction in the 360s, see pp. 72-73.

101 For difficulties in the chronological arrangement of Classical black-glaze pottery, see comments in *Agora* XII, 27 and Corbett 1949, 301.

102 The comparison was made by Eiseman & Ridgeway 1987, 28 but the pieces in question from U13:1 were not illustrated in Shear's (1975) preliminary report.

103 Eiseman and Ridgeway 1987, G7, figs. 3.5 and 3.6; a similar cup skyphos comes from U13:1 (P30420, Shear 1975, 358 note 53, pl. 80g); unfortunately without preserved interior decoration. In my earlier discussion of the date of the Porticello wreck, I argued for an early 4th century date on the basis of the amphoras alone and left open the possibility that the bolsals could be much earlier. On further consideration of the U13:1 bolsals and the advent of proto-rouletting, even the finewares on the Porticello wreck seem entirely compatible with a date in the early 4th century (see above). While similar bolsal decoration is published from the Rhenia pit, two points should be taken into consideration: 1) there is post-426 pottery among that material according to the original publication (Dugas & Beazley 1952, 3, though he notes that the complete vessels are more likely attributed to c. 426), and 2) the U13:1 evidence indicates that the Porticello bolsals *can* date as late as the early 4th century even if the decorative scheme began to be used earlier, and this later date fits the constraints provided by the amphoras and the cup-skyphos with proto-rouletting. Neither Eiseman nor Gill draw attention to the proto-rouletting on the cup skyphos, yet this feature is as important as the bolsal forms for the date of the wreck.

104 This statement is based both on the inventoried and non-inventoried pottery from this deposit.

105 *Agora* XII, 384 with list of catalogued pieces from this deposit. Rouletting appears on bolsals and other forms at Lattes in contexts dated c. 375-350, see Py & Sabattini 2001, 173-178.

106 For the bolsals from Olynthos, see Robinson 1950, plates 207-215; the rouletted bolsal is no. 654, pl. 208.

107 For discussion of the El Sec bolsals, see Cerdá 1989, 54 and 69. The red-figure pottery from El Sec also has close parallels at Olynthos, see Trias 1987, 62 (Black Thyrsos painter), 86 (Group of Vienna 116), 111 (Fat Boy Group); 1989, esp. 33-37 and B. Shefton's comments in Rouillard & Villanueva-Puig 1989, 135.

108 Amphora types N (certain examples), G and R in particular from the El Sec wreck do not appear in Athenian Agora deposits until the very end of the 4th century, so a date perhaps even some decades after 340 may be necessary. For suggestions as to the dates of the Corinthian and Adriatic amphoras, see Koehler's comments in Rouillard & Villanueva-Puig 1989, 132 where the Adriatic amphoras are suggested to date near the mid 4th century and the Corinthian amphoras earlier in the 4th century.

109 SS1723; Garlan 1999a, no. 322.

110 SS367: Kleoph(anes) (fabricant) with star (eponym symbol) and shell (device) = Garlan 1999a, no. 615, is from the uppermost layer at H17:5; SS368: Chairimenes (fabricant), phiale (eponym symbol), lance (device) = Garlan 1999a, no. 598; and SS369 Kalliphon (fabricant), star (eponym symbol), and pole(device) = Garlan 1999a, no. 614 are both from the cobbled surface under the dirt fill containing SS367.

111 Fixed points for Attic red figure and black glaze are discussed by Curti 2001, 23-36; Sabetai 1993, 218-221; Sparkes 1991, 28-59; Burn 1987, 7-13; MacDonald 1979, 29-44; and Morel 2000, 13-14, and a convenient bibliography is provided by Campenon 1994, 14.

112 The excavation records vary in detail: for the early excavation in the Assembly area (Dec. 1930 through mid March 1931, Thompson drew and recorded findspot information for many diagnostic sherds, loomweights, coins and other finds; for later March through June 1931 and October-November 1932 records of findspots for individual objects appear less often. Detailed records reappear for the 1936 excavations of the region around the Assembly area per se. The amphora handle catalogue cards no longer comprise a complete set, so some handles are only recorded in the notebooks, some only on the cards, and some are not recorded anywhere apart from Grace's publication. I have been unable to find Grace's working files on the Pnyx material apart from a folder of correspondence immediately preceding the publication, so there are some remaining uncertainties as to why Grace thought certain stamps were to be attributed to the period III fill and others not. The handles themselves are stored at the Stoa of Attalos as is the other published, and dramatically edited unpublished, pottery.

113 This particular handle is mentioned by Rotroff (1996, 291) as intrusive.

114 Despite being excavated in 1931, there is no record of this quite worn stamp in the notebooks of that year, so its precise findspot is unknown.

115 The restoration is based on review of Grace's collection of images of Thasian stamps with this alabastron device. While much of this material remains unpublished, an example of the stamp of Chaireas with alabastron is found in Avram 1996, no. 452.

116 Avram 1996, 28 note 73 recognizes the uncertainty of this eponym's inclusion in the Pnyx III fill.

117 Note that Panphaes is spelled as Pamphaes (a fabricant name) in Grace 1956, no. 46, but the letter in question does appear more like an N on the stamp; see Garlan 1999a, no. 730.

118 Note that although Garlan and Avram agree on the later date for the transition, their respective lists of old style names differ significantly in terms of the relative sequence. Therefore, by Avram's sequence the latest Pnyx III eponyms are Baton and Megon II, whom he places at 346 and 345.

119 According to lists compiled by Grace there are seven old-style Thasian stamps in the Middle Stoa fill and four in the Stoa of Attalos fill. The earlier amphora-rich, even Thasian-rich, fill of Q10:1 did not include any old-style stamps.

120 For the Roman pottery, much of which is dated now to the 3rd century AD, I am fully convinced by Rotroff's interpretation of Thompson's sketch showing a change in fill near the retaining wall as indicative of post-Herulian attempts at stone robbing (Rotroff & Camp 1996, 269-270, plate 78f).

121 Beazley 1940-44, 19, note 2; Rotroff & Camp 1996, 275; Rotroff 1996, 39

122 Landolfi 2000 and, especially for the dates, see Landolfi 1996, 32-33.

123 There is no standard against which to judge the relative preservation of these sherds. Many red-figure pieces from the Persian sack wells (primary deposits) are complete or nearly so; most of the material in *Agora* XXX, however, is comprised of quite small fragments (as noted *Agora* XXX, 1). A detailed comparison of preservation among different sorts of deposits in terms of finewares and coarsewares would be quite valuable for allowing further interpretation of the state of preservation of these classes of artifact.

124 Rotroff & Camp 1996, 276 and 278 with fig. 7.2-3.

125 *Agora* IV, especially p. 74 with reference to type 25B' and its absence from Olynthos; Rotroff & Camp 1996, 275 and 277; Rotroff 1996, 39-40.

126 For selective importation and then imitation of Attic forms in the Troad in a limited period of time, see Berlin & Lynch 2003, 172-174.

127 Davidson & Thompson 1943, 73-79 emphasizes the dominance of pyramidal weights in the Pnyx III fill as compared with the dominance of conical weights in later fills.

128 The most often discussed coins from the Pnyx III fill were published by Kourouniotes & Thompson 1932, 211-213; see too Davidson & Thompson 1943, 14-27.

129 For discussion of the relevant bronze types see, *Agora* XXVI, 9, 31, 41-42; Rotroff 1996, 40; Rotroff & Camp 1996, 275. Extant documentation of other coins related to the date of the Pnyx III fill reveals further difficulties: Kourouniotes & Thompson 1932, 211, no. 2 was found 0.45 m deep, 20 m from the large retaining wall, a noticeably disturbed area of the fill. The coin of Salamis from trench A (Kourouniotes & Thompson 1932, 212 no. 8) is from 0.8 m depth, 5.0 m from the wall, i.e., also from a problematic fill.

130 Thompson & Scranton 1943, 333; Lauter-Bufe & Lauter 1971 for houses elsewhere not far from the Pnyx, unfortunately without publication of accompanying artifacts.

131 On the nature of the ceramic material in the fill, see Rotroff & Camp 1996, 276; the presence of pottery workshop debris may be in keeping with debris from an essentially domestic quarter. The figurines and saucers may be debris from nearby shrines (Davidson & Thompson 1943; Rotroff & Camp 1996, 276).

132 Thompson 1982, 145 note 40 uses the date of 345; Fisher (2001, 217-218) uses the date of 347/346.

133 Rotroff & Camp 1996, 271-275.

134 The date of the early 260s depends on the amphora stamp of fabricant Euphron and (restored) eponym Agrios (Grace 1956, no. 70; unfortunately no primary documentation exists as to the findspot of this stamp so there is no possibility of confirming its association with the construction packing of the wall), dated by Finkielsztejn (2001, 188) to c. 265. Such a date calls into question Romano's date c. 280 for the Compartment wall (Romano 1985, 452-453). The date of c. 265 for Agrios is rendered impossible by the fact that it would have this stretch of the city's fortification being built during or after the siege by Antigonos Gonatus in the Chremonidean war (starting in 267). That Agrios is not much earlier, however, is indicated by his presence at Koroni. For the date of the stoas overlooking the Pnyx, see Thompson and Scranton 1943, 293-294. Thompson only published three fragments (p. 294 fig. 15a-c) and the precise findspots of these are not indicated. The fourth fragment (d) is from the Compartment wall fill (p. 334, note 56), but this tall-stemmed kantharos is an unusual form and the date of the Compartment wall is the primary evidence for its date (see *Agora* XXIX, 88 note 16). While Thompson and Scranton (1943, 293-294, 333-334) describe many contexts from which datable pottery was studied, very few sherds were inventoried from these particular contexts and all uninventoried pottery from the excavations of these stoas and the city wall was discarded.

135 Conovici 1998, 21-23 for the relative position of Endemos and 50-51 for the absolute chronology; Fedoseev 1999, 30 places Endemos at 375 B.C.; Fedoseev 1992, 159, starts consistent Sinopean stamping in the 360s and this chronology is followed by Monachov 1999a, 379.

Rhodian Amphoras: Developments in Form and Measurements

Sergej Ju. Monachov

Of all categories of finds from Greek sites, the amphora evidence allows the most optimal possibilities for developing a more precise chronology, especially for that of the late Classical and Hellenistic periods, and fortunately a number of factors present us with an opportunity to carry out a very successful chronologization: First and foremost the widespread practice at the time of magistrates and fabricants to stamp amphora, while the shape of the containers from each Greek centre remained peculiar and original.

A special position as an important chronological indicator in the archaeology of the Greek period is held by Rhodian amphoras. Though the stamping of amphoras started on Rhodos considerably later than in Herakleia Pontike, Thasos, or Sinope, it acquired a truly global character, since the practice of stamping every product rather than any particular vessel among a consignment was fairly quickly established. This fact called forth the abundance of finds of Rhodian stamped amphora handles in cultural layers, and hence the special importance of this evidence in terms of chronologization. It is known that samples of Rhodian amphora stamps from both the Mediterranean and Black Sea littoral are several times more common than those from other centres. In turn, this fact has attracted the steadfast attention of several generations of researchers (V. Grace, J.-Y. Empereur, Ju.S. Badal'janc, V.I. Kac, G. Finkielsztejn *et al.*) to various problems of Rhodian chronology and resulted in the development of a number of chronological schemes of Rhodian stamping. During recent decades, new deposits with Rhodian stamped amphoras have been discovered, which allow us to make the existing chronological models more precise, and in some cases also more correct.

However, while certain success is observable in the development of the chronology of Rhodian stamping, our ideas about the dynamics of forms and standards of the amphoras themselves have remained at the level of the 1970s-80s. The objective of this paper is to correct these ideas on the basis of the latest achievements and recently discovered new evidence.

In earlier periods, Rhodos, unlike other East Greek centres such as Knidos, Miletos, Samos, and Klazomenai, did not produce transport amphoras. Research by P. Dupont[1] has established that there are no signs of such production having taken place during the 5th century BC. It was only in the 4th century BC that Rhodos began to take an active part in the wine trade.

However, it is virtually impossible to reliably identify the Rhodian ceramic vessels produced during that century, since the practice of stamping had not yet been introduced on the island. We can only guess that Rhodian amphoras from the late Classical period may be found among the vast quantity of vessels with mushroom-shaped rims which have thus far been classified as being "of unknown provenance".

The first series of Rhodian amphoras that can be securely identified dates from the Hellenistic period. The practice of systematically stamping ceramic containers was introduced in the 3rd century BC and continued for two and a half centuries, which allows us to trace successive changes in the shape of the Rhodian amphoras over time. However, since chronological identification is essentially based on ceramic epigraphy, we need to recall, at least briefly, the main developments of the chronology of Rhodian stamping.

Back in the 1930s, B.N. Grakov proposed a general chronological framework for the Rhodian tradition of stamping amphoras. He believed that this practice was limited to the period from 331 to 40 BC.[2] Virginia Grace, who worked out a classificatory scheme consisting of six (later seven) successive chronological groups of magistrates' stamps,[3] initially followed Grakov in believing that the practice of stamping on Rhodos was confined to this period. Later on Grace repeatedly modified this scheme, and her second-to-last version[4] makes good use of all the contemporary research.[5] In Russia an important contribution to the study of Rhodian ceramic epigraphy over the last few decades has been made by Ju.S. Badal'janc, who in essence proposed a further modification of Grace's scheme, which was elaborated in the 1950s and '60s. Badal'janc keeps the same number of groups, but establishes a more precise chronological framework for them and includes in it his own classification of fabricants' stamps.[6] The weakness of this system lies in its uncritical approach to the primary sources, since the failure to collate the names of the Rhodian eponyms means that the general list of the latter contains a number of uncertainties and errors. Conceding that eponyms held office for one year each, Ju.S. Badal'janc includes over four hundred names of magistrates in his list, while the tradition of stamping on Rhodos continued for less than three centuries.[7]

It is interesting that Grace herself, in one of her last works, revised the chronology of the stamps used on amphoras in the Hellenistic period, and came to the conclusion that significantly lower dating of the Rhodian stamps is necessary.[8] Of particular interest in this connection are the results obtained in recent years by G. Finkielsztejn, whose research is based on new deposits. In his view, the practice of stamping ceramic containers on Rhodos began roughly at the turn of the 4th and 3rd centuries BC. Arguing for the division of Grace's typological periods (groups) into sub-groups, he proposes the following chronology: Period I (with three sub-groups) 304-235 BC; Period II (with three sub-groups) = 234-199 BC; Period III (with five sub-groups) = 198-161 BC; Period IV (with two sub-groups) = 160-146 BC; Period V (with

three sub-groups) = 145-108 BC; Period VI = 107-86 BC; Period VII (with two sub-groups) = from 85 BC to the era of Augustus.[9]

In turn, J.-Y. Empereur, who has studied the Rhodian amphora workshops on the mainland part of the Rhodian peraia, has succeeded in establishing precise chronological connections for a number of magistrates and fabricants from the mid-3rd century to the beginning of the 2nd century BC, including reliable absolute dates for the period in which the *ergasteriarchos* Hieroteles held office.[10]

In view of these findings, V.I. Kac, working on the basis of a number of quite precisely dated Black Sea deposits, has recently succeeded in drawing some convincing conclusions concerning the date at which Rhodian stamping began, and as a result has managed to construct a sound hypothesis concerning the chronology of the first stages of stamping. According to his reconstruction, Rhodian stamping began with fabricants' stamps in the second half of the second decade of the 3rd century BC. He dates the early magistrate group, 1a, to before the Koroni deposit (280-265 BC), while apart from minor adjustments his dating of the subsequent periods of magistrates' stamps is close to that proposed by Finkielsztejn.[11]

Despite these evident successes in the study of Rhodian stamping, particularly with regard to the initial stages, further work still needs to be done in order to obtain a more precise chronology of the subsequent periods. A recent volume by Börker and Burow on the Pergamon deposit[12] has made clear the importance of a careful re-examination of primary sources.

Whereas Rhodian ceramic epigraphy has been studied in detail, no special analysis has been made of the changing morphology of the Rhodian amphoras from the 4th to the 1st century BC, although descriptions of particular groups have been published, and recently a brief overall scheme was established to demonstrate the basic morphological development of the Rhodian vessels.[13] In addition we now have a very considerable selection of complete Rhodian amphoras, which allows us to add further nuances to our existing understanding of the changing forms and standards of the vessels produced in Rhodos from the end of the 4th century to the 2nd century BC.

In my opinion, two basic types of Rhodian amphoras were produced throughout the late Classical and Hellenistic period, and they can most conveniently be classified in straightforward morphological terms as *long-necked* (Type 1) and *short-necked* (Type 2) respectively.

Type 1 most probably appeared in the late 4th century BC and for a certain time coexisted with Type 2, but by the end of the first quarter of the 3rd century, at the very latest, it had become the only type to be produced on Rhodos, and continued to develop steadily for a period of just over two centuries. During this period it was repeatedly modified, partially changing its morphological characteristics, which allows us to sub-divide this type into six successive variants:

- Variant I-A (*Kyrenia*);
- Variant I-B (*Koroni*);
- Variant I-C (*Myrmekion*);
- Variant I-D (*Pietroiu*);
- Variant I-E (*Villanova*) with two series: *early* (I-E-1) and *late* (I-E-2);
- Variant I-F (*Alexandrian*).

The short-necked *Type-2* amphora (also known as the Benachi type) emerged early in the first third of the 3rd century BC. Its principal characteristics are the generally squat shape that results from its short neck, and the special "beak-shaped" form of its rim. Because few examples of this type have been found, and because production of Type-2 amphoras was short-lived, it has up to now not been possible to identify different variants within it.

The Kyrenia variant (I-A) (named after the shipwreck deposit at Kyrenia on Cyprus,[14] where such jars were first found) may be regarded as the earliest of the Type-1 variants. I know of only a few published examples. One amphora measuring 92 cm in height that was found in the shipwreck in Kyrenia has been described by M. Katzev (Fig. 1.1).[15] It has a massive mushroom-shaped rim and a peg toe with a conical depression in its base. An amphora of similar shape, but with a more massive toe, was discovered by chance in the bay of Fos (Fig. 1.2).[16] Both vessels are unstamped, and it is therefore almost impossible to synchronise them reliably; however, the shipwreck deposit at Kyrenia has traditionally been dated to roughly the last quarter of the 4th century.

The Black Sea material may shed light on the chronology of the Kyrenia variant, for although it has not so far yielded any intact specimens, substantial fragments have been found. In addition there is reason to believe that it was precisely the Kyrenia amphoras that bore the circular or rectangular stamps of the fabricant Timarchos. The circular stamps with a two-line legend TI | MAP were identified in the deposit from the Zelenskoj barrow,[17] at Nymphaion,[18] at the settlement of Elizavetovskoe (Fig. 1.3),[19] on the farmstead near the Eupatoria lighthouse[20] and at the "Litvinenko estate" settlement in the Dnieper region.[21] The neck of an amphora of this kind, with an overhanging rim and the stamp of the same die with the name of Timarchos on the handle is preserved in the museum at Kerch.[22] The context of the finds, above all at Elizavetovskoe (in the so-called "second *emporion*"), at the Zelenskoj burial mound, and on the farmstead near the Eupatoria lighthouse, provide indirect support for dating the circular stamps of Timarchos to the early 3rd century (most probably to the second half of the second decade).[23] The rectangular stamps of the same fabricant (with the one-line legend TIMAPXOY)[24] are approximately synchronous, although they may be a little older. At all events, the well-known find from the fill of the Chertomlyk barrow can hardly be dated to the time of the burial (the 330s BC),[25] but probably relates to the latest burial feast at the beginning of the 3rd century.

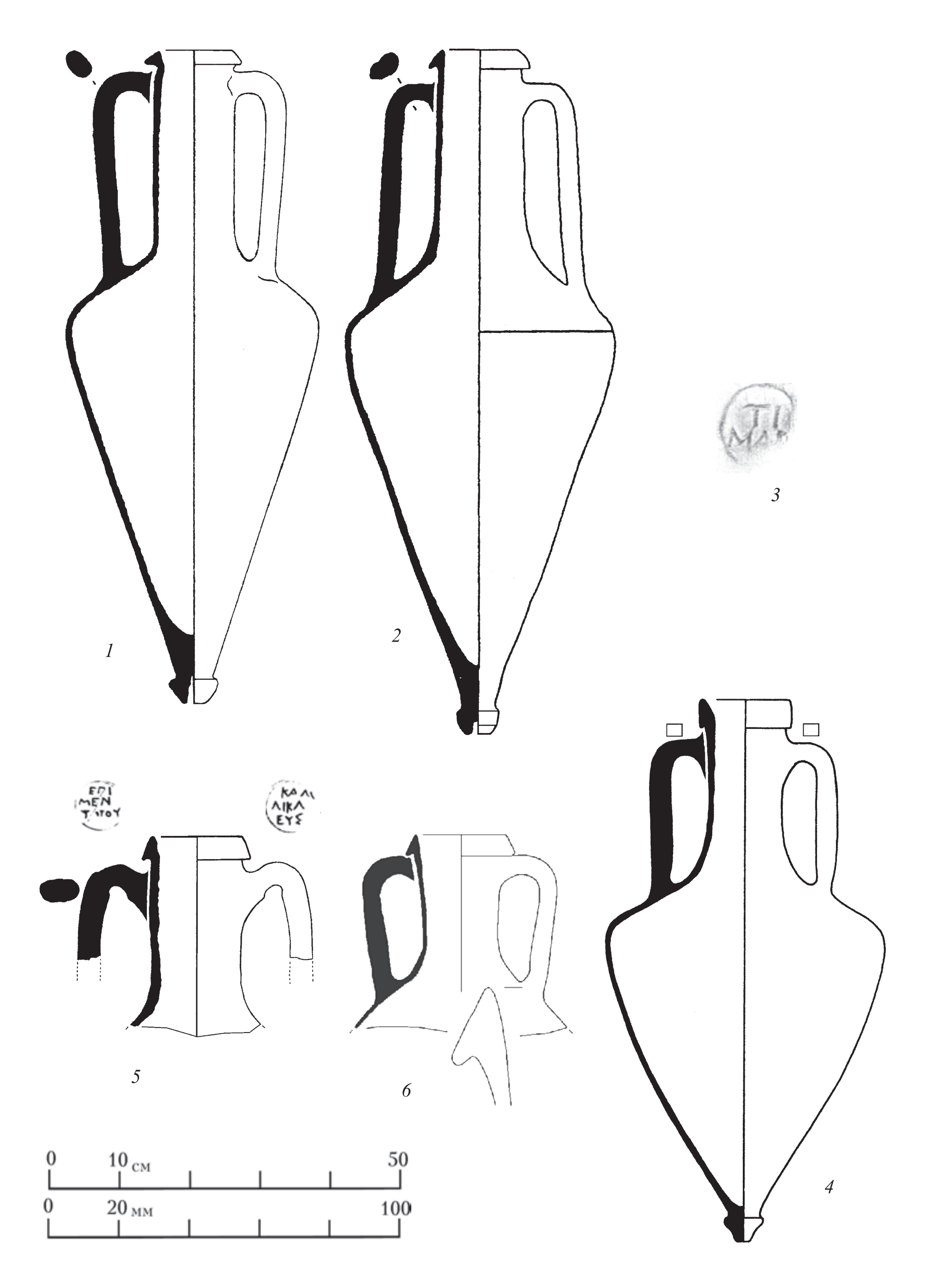


Fig. 1. Rhodian long-necked amphoras of types I-A (nos. 1-3) and I-B (nos. 4-6) from: 1) the Kyrenia wreck (after Empereur & Hesnard 1987); 2) the bay of Fos (after Sciallano & Sibella 1991); 3) Elizavetovskoe settlement (EG-79/XIV-422); 4) the Koroni peninsula (after Grace 1963; eponym Chrysostratos); 5) excavations in Thasos (after Grandjean 1992; eponym Mentaios); 6) Chersonesos of Strabo (after Ščeglov 2001).

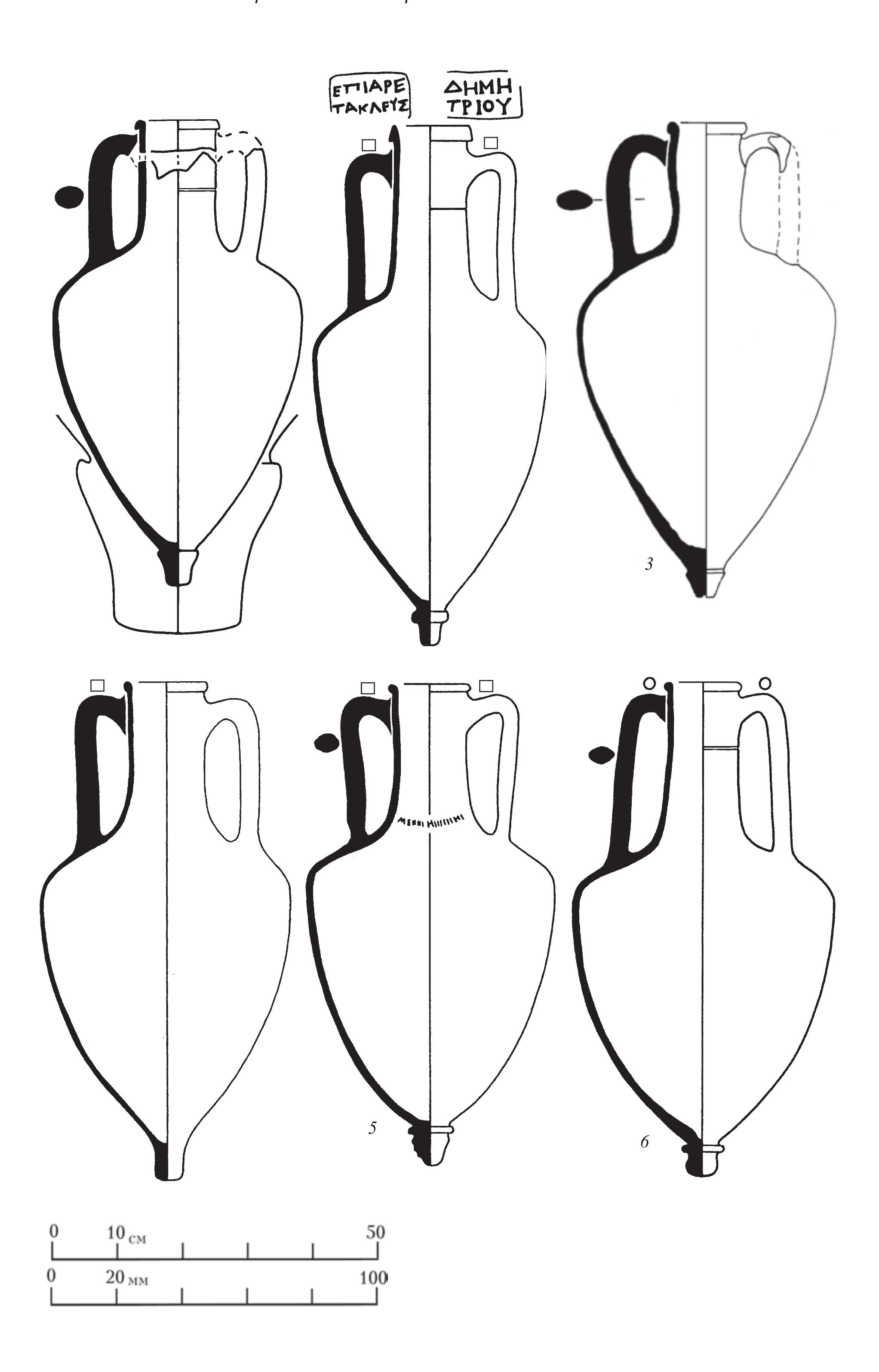
The *Koroni variant* (I-B) replaced the Kyrenia variant during the 270s-60s BC at the latest. These amphoras are significantly smaller in height; the mushroom-shaped rim is replaced with a high, overhanging rim, and the toe, while still peg-like in form, no longer has the characteristic depression in the base. The amphora from Koroni, which has been repeatedly described, has two stamps on the handles, one of which contains, in abbreviated form, the name of the eponym Chrysostratos, while the other bears an illegible name of the fabricant (Fig. 1.4).[26] This vessel is dated (for historical reasons) to the time of the Chremonidean war (267-262/261 BC).[27]

An unstamped amphora from room 52 at the Elizavetovskoe settlement (Fig. 2.1), dating from the 270/260s BC, displays similar morphological characteristics.[28] The body of the jar from Elizavetovskoe has softer lines and is probably a slightly enlarged version of the denomination of eight Attic *choes* (26.26 litres)[29] compared to the vessel from Koroni (seven *choes*?). The upper part of a Koroni amphora, with an overhanging rim and no stamp on the handles, was identified in the collection found in the trench of 1967 on the isthmus of the Mayachny peninsula (Fig. 1.6),[30] and another fragmentary amphora with the same overhanging rim and with handles bearing the circular stamps of the Group-1 eponym Mentaios and of the fabricant Kallikles (Fig. 1.5),[31] was recently found on Thasos in the area of the Silen Gate. According to Kac' latest calculations, Mentaios must have held office in the 260s BC.[32] A further intact Koroni-type amphora from the same period is preserved at the museum of Rhodos and has on its handles the rectangular stamp of the Group-1 eponym Aretakles, together with that of the fabricant Demetrios (Fig. 2.2).[33] As in the case of the vessel from Elizavetovskoe, its actual capacity (27.54 litres) probably corresponds to the denomination of eight Attic *choes*. The rim of this amphora is beak-shaped[34] like that of the jar from Koroni, although it is not as massive. However, it has one new morphological detail: a toe with an applied flange, which would later become a feature of the Pietroiu variant.

What I.B. Brašinskij has termed the Myrmekion amphoras (Variant I-C), are distinguished from the Kyrenia and Koroni-type vessels by the more flowing lines of the body, particularly in the area between the neck and the shoulders; by the rolled rim and, very often, a cylindrical toe rounded at the bottom. One of the first examples of this type was found at Myrmekion. The amphora probably belongs to the same denomination of eight Attic *choes* as the preceding types of vessel. One of the handles has a rectangular stamp of

Fig. 2. Rhodian long-necked amphoras of types I-B (nos. 1-2), I-C (nos. 3-4) and I-D (nos. 5-6) from: 1) Elizavetovskoe settlement, room 52; 2) Rhodos (after Grace 1986; eponym Aretakles); 3) Myrmekion (after Zin'ko 2003); 4) Rhodos (after Grace 1963; eponym Lysandros, fabricant Sotas I); 5-6) Pietroiu (after Museteanu, Conovici & Anastasiu 1978; eponyms Polykles, Timostratos and Agestratos).

→


ΕΠΙΑΡΕ
ΤΑΚΛΕΥΣ
ΔΗΜΗ
ΤΡΙΟΥ
3
5
6
0
10 см
50
0
20 мм
100

the fabricant Axios.[35] This amphora was initially dated to the middle of the 3rd century BC,[36] but given that stamps of the same fabricant have been found at the settlement of Gruševskoe, it is evident that the jar should in fact be dated to the end of the 250s or the 240s BC.[37] However, production of amphoras of this type began significantly earlier, as can be seen from the recent discovery at the Myrmekion necropolis of an unstamped vessel that differs from the first find in only one detail – its toe has a pronounced peg-like form, resembling that found in the Koroni variant (Fig. 2.3).[38] The context of the find allows a date around the first third of the 3rd century BC.

In only one instance had the Myrmekion amphora been found with a peg toe; most often the toes in this variant are cylindrical. Thus cylindrical toes are found on an unstamped jar in the museum at Nesebur[39] and on an amphora from the excavations at Rhodos (Fig. 2.4). In the latter case one of the handles bears the stamp of the fabricant Sotas I, combined with a monogram, while the second handle bears the name of Lysandros, a magistrate of Group 1. Virginia Grace was inclined to date this amphora to the end of the 4th century,[40] but according to the recent Finkielsztejn's chronology, it probably dates from the 260s BC.[41] Altogether, the available material permits us to limit the period in which the Myrmekion variant was manufactured to between the 280s and the 240s BC.

The *Pietroiu variant* (I-D), coming from the extremely interesting pit-of-1975 deposit at Pietroiu in Romania (Fig. 2.5-6), occupies a special place among the Type-1 amphoras. On this type one of the handles bears the stamp of the fabricant Hieroteles, while the second bears the rectangular or circular eponym stamps of the sub-group 1b: Polykles, Timostratos and Agestratos,[42] which according to Finkielsztejn's scheme date them to the late 250s and the first half of the 240s BC.[43] In terms of proportions, the main morphological features of the Pietroiu jars resemble those of the Myrmekion variant. The only exception is the special form of toe, the so-called Knidian type (with an applied flange) that we have already encountered on the Koroni amphora in the Museum of Rhodos (see Fig. 2.2). The evidence suggests that this was a local feature: it can also be observed on amphoras produced in the part of the Rhodian peraia which bordered on the territory of Knidos. It is quite possible that such vessels were manufactured by potters of Knidian origin, and to the buyer such a distinctive morphological detail as the Knidian-type toe would be an indication that the vessel contained the mainland rather than the island variety of Rhodian wine.

Examples of the Pietroiu type are extremely rare: apart from the above-mentioned finds I know of only one other fragmentary amphora (with no neck or toe) found in the trench of 1967 on the Mayachny peninsula, which I provisionally dated to the third quarter of the 3rd century BC,[44] a dating that I still consider valid.[45] In general, however, it should be noted that the Pietroiu variant does not represent a stage in the development of Rhodian amphora manufacture, but rather a local series of the Myrmekion variant.

The further evolution of the Type-1 Rhodian vessel continues through the *Villanova* variant (I-E), which represents a natural continuation of the Myrmekion variant. There is no doubt as to the morphological continuity between the two variants, since the basic proportions and the standard remain the same. The innovative features in the Villanova variant are as follows: the neck becomes somewhat narrower and longer, the transition between neck and shoulders becomes more distinct, and the toe is shorter and more distinctly formed. From the end of the second quarter of the 3rd century until the end of the 2nd century these morphological characteristics are fairly uniform. Nevertheless, thanks to stamped examples and certain secondary details in the profile it is possible to distinguish two successive series of ceramic vessels within the Villanova variant.

The *early* series (I-E-1) is characterised by such features as the smooth curve of the handle and a somewhat conical toe with a pronounced edge ridge in the upper part. Amphoras with stamps from the first half of the 2nd chronological group, dating from after c. 235 BC, can be considered part of this series. They include amphora no. SS 370 from the Athenian Agora (Fig. 3.1), which Grace initially dated to around 275,[46] and subsequently to the 240s BC. Its denomination is the same as that of the Myrmekion variant: eight Attic *choes*. On its surviving handle is a circular fabricant stamp with the name Zenon around the emblem of a flower. It is possible that there was a magistrate's stamp on the second handle, which has not survived.[47] However, we know of the existence of some (albeit extremely rare) unstamped examples of such amphoras, such as the vessel from grave 1/1987 at the Starokorsunskaja burial site (Fig. 3.2).[48] To this early series belong the jar from the Hôtel de Soleil deposit, which bears the stamp of Pausanias I, a magistrate from the very beginning of Group 2 (Fig. 3.3), who is now believed to have held office in the late 230s-20s BC,[49] and an amphora from the Anapa Museum bearing illegible stamps (Fig. 3.4).[50] All the vessels mentioned are smaller versions of the Agora jar and equal seven Attic *choes* (22.98 litres). Amphoras of an earlier series, bearing the stamps of the eponym Kallikratidas I, can be dated to approximately the same time. One such vessel comes from grave 2/1991 of the Eastern necropolis at the Starokorsunskaja settlement no. 2 (Fig. 3.6),[51] and the second from grave 13/1992 (Fig. 3.5) from the same burial site.[52] The last two amphoras are the full size jars, equalling eight *choes*.

Altogether, as can be seen from the illustrations, the most distinctive features of the early series I-E-1 of the Villanova variant are the smooth curve of the handles (which is also typical of the earlier variants) and the small conical toe. Judging from the materials available to us today, the significance of the first feature, which Grace identified as one of the most characteristic features of Rhodian vessels up until c. 240 BC, cannot be doubted, although it is possible that the date at which production ended should be set a little later.

The above-mentioned morphological features suggest that a small amphora from Gorgippia, with a capacity of just over four litres (Fig. 6.3), also belongs

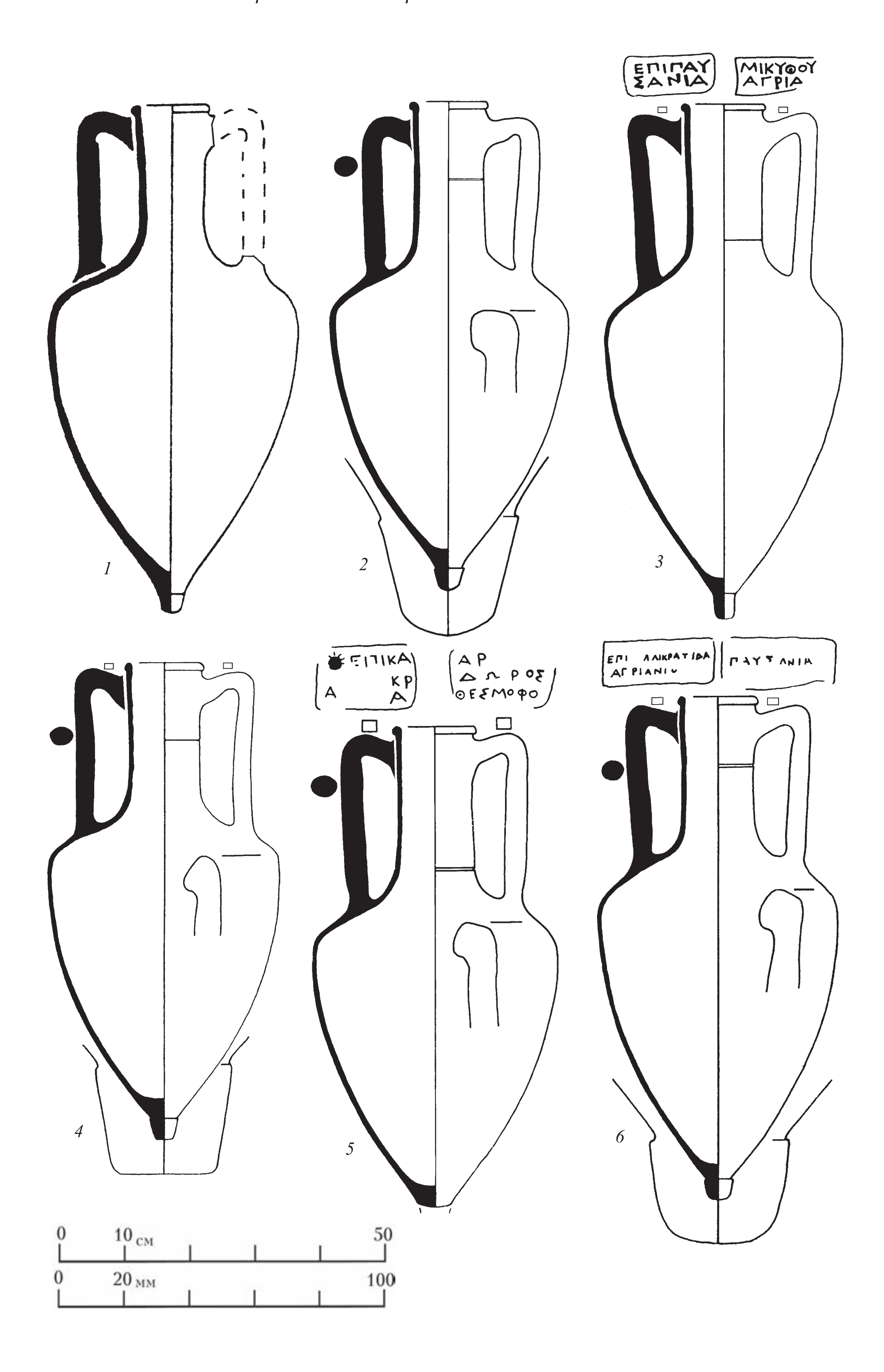
to the early series of the Villanova variant. The intended capacity of this fraction was most probably one *chous* (3.283 litres).[53] The small rectangular stamps with indistinct emblems on both double-barrelled handles do not provide sufficient evidence to date the vessel. However, the conical profile of the toe, which was typical of the early series, suggests that it was produced at the end of the third or beginning of the last quarter of the 3rd century BC.

The *late* series (I-E-2) of the Villanova variant displays the same basic morphological features and dimensions, and is distinguished only by certain details in the profile of the toe and handles. The handles are always bent at a sharp angle, and the toe is larger, with clearly defined edges, and in profile appears not so much conical as cylindrical or concave. The series I-E-2 includes several amphoras found on Rhodos (Fig. 4.2; circular stamp of the Group-2 eponym Theuphanes)[54] and in grave 2/1991 at the Starokorsunskaja necropolis (Fig. 4.1; circular stamp of the Group-3 eponym Aristeidas).[55] The best examples come from the Villanova deposit,[56] where we can see the stamps of eponyms Simylinos II, Archokrates II, Hieron I, Kratidas, Xenophon, Pratophanes and Timasagoras, among whom Simylinos belongs to Group 2, and all the others to Group 3. Traditionally this deposit has been dated to the time of the Pergamon deposit.

An amphora of the late series, bearing the stamp of the eponym Thestor from the first decade of the 2nd century BC, comes from the Komos Cistern in Athens.[57] The magistrate Ainesidamos II, whose stamp is found on an amphora in a private collection on Cyprus (Fig. 4.3), appears to have held office at the beginning of this century.[58] Fractional (?) vessels equaling seven Attic *choes* from graves 237 and 178 at Tanais bear the stamps of magistrates Archilaidas and Xenophantos (Figs. 5.2-3), and can be dated to the second quarter of the 2nd century.[59] The same applies to a fractional amphora of 3.5 *choes* bearing the stamp of the magistrate Aristodamos II that was found in grave 261 at the Tanais necropolis (Fig. 5.4).[60]

Amphoras of the eponyms Klenostratos (Fig. 6.2) and Antilochos II (Fig. 6.1) from graves 8/1994 and 44/1995 at the Western Necropolis of settlement no. 2 in Starokorsunskaja[61] are somewhat older, dating according to the latest chronology to the second half of the 2nd century. A number of other northern Black Sea finds can be dated more approximately to the 2nd century. In particular, we know of amphoras of this type from the excavations at Chersonesos (Fig. 4.4), from Kuban (Figs. 4.5 and 5.5) and from Olbia (Fig. 5.1).[62] Because their stamps are illegible, however, it is impossible to establish more precise chronological connections for these vessels.

Fig. 3. Rhodian long-necked amphoras of type I-E-1 from: 1) Athens, SS370 (after Grace 1963; fabricant Zenon); 2) Starokorsunskaja necropolis (grave 1/1987); 3) Hôtel de Soleil deposit (after Wallace Matheson & Wallace 1982; eponym Pausanias I); 4) the Anapa Museum; 5-6) Starokorsunskaja necropolis (graves 13/1992 and 2/1991; eponym Kallikratidas I). ⟶



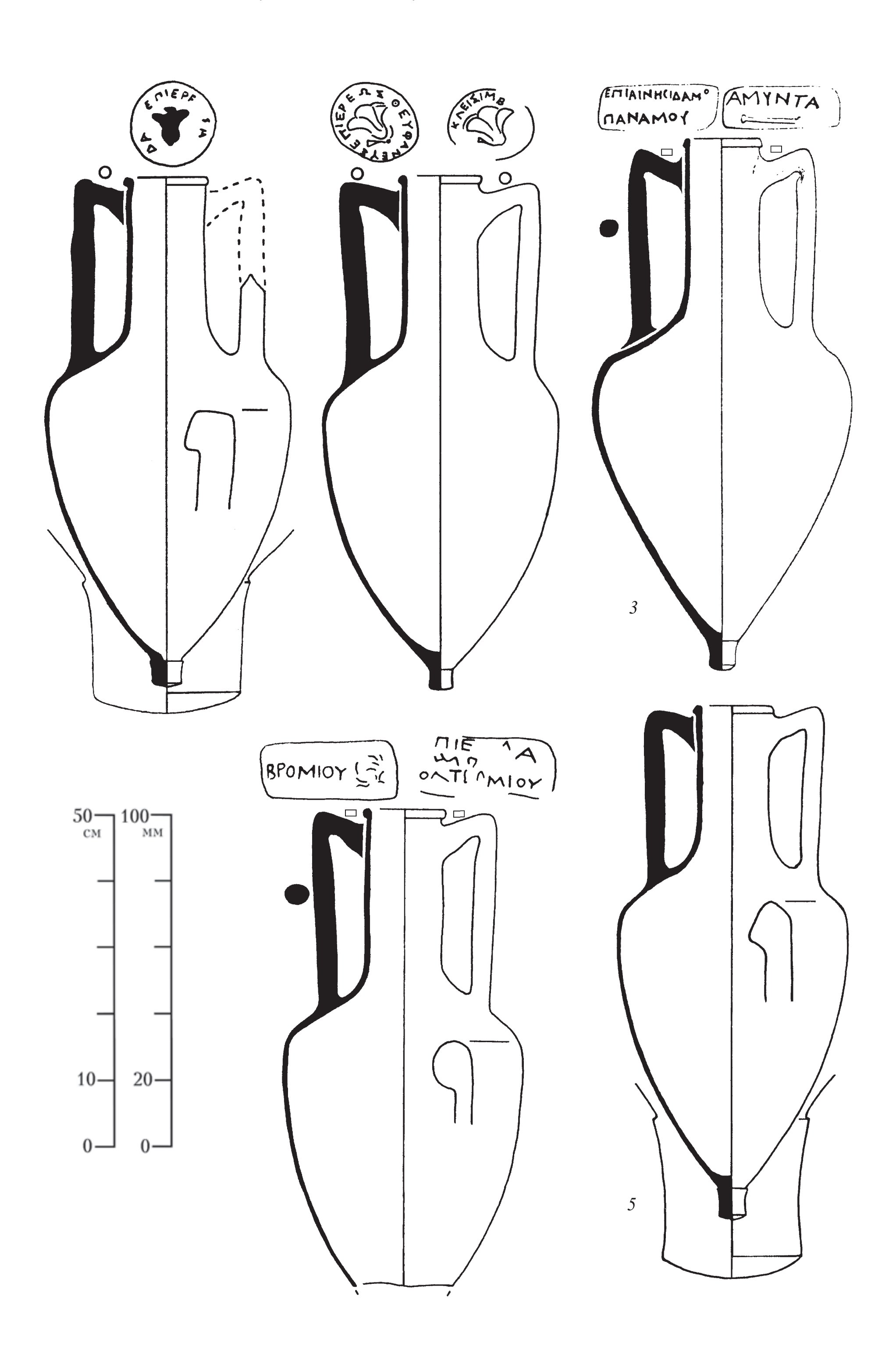
ΕΠΙ ΓΑΥ
ΣΑΝΙΑ
ΜΙΚΥΘΟΥ
ΑΓΡΙΑ
1
2
3
ΞΙΤΙΚΑ
Α
ΚΡ
Α
ΑΡ
ΔΩΡΟΣ
ΘΕΣΜΟΦΟ
ΕΠΙ ΑΛΚΡΑΤΙΔΑ
ΑΓΡΙΑΝΙ
ΠΑΥ ΑΝΙΑ
4
5
6
0
10 см
50
0
20 мм
100

Smaller fractions of the late series of the Villanova variant can be dated to the second half of the 2nd century, and there are two more such fractions. Thus, two unstamped four-litre amphoras (equivalent to one *chous*) are preserved at the Hermitage (Fig. 6.4),[63] and a small mini-amphora measuring 1.75 litres (1/2 *chous*) comes from the excavations at Chersonesos (Fig. 6.5).[64] The latter's handle bears a rectangular stamp with a dot at the centre. The upper part of a similar amphora was found at the settlement of Bol'šoj Kastel', but in this case the handles bear anepigraphic stamps with the head of Helios.[65] A further complete amphora of the same kind comes from layer E^1 at Scythian Neapolis, dating from the time of the fire in the 130s BC.[66]

As can be seen, the Rhodian jars from the first half of the second century do not differ greatly from those produced in the second half of the preceding century. It is only towards the last quarter of the 2nd century BC that one can observe major changes in the morphology of the vessels: the slope of the shoulders becomes more gentle and the toe is shaped very roughly. Later on, this tendency becomes more and more distinct, which gives grounds for distinguishing a particular *Alexandrian* variant (I-F) within the first type of Rhodian vessels, named after the best-known find of this type. This amphora is preserved in the Graeco-Roman museum in Alexandria, and bears on its handles the stamps of the Group-5 eponym Thersandros and of the fabricant Timaratos (Fig. 7.1). Empereur and Hesnard, who published the jar, place this magistrate around 146 BC.[67] An amphora from an unnumbered grave at the Tanais (Fig. 7.2)[68] apparently dates from somewhat later, since it bears the stamp of Aristeidas III, an eponym of Group 5 (from the last quarter or even the very end of the 2nd century BC).[69] Judging from the Tanais jar, the capacity of which is over 27 litres, the standard dimension must by then again have been increased to eight Attic *choes*.

In addition to the above-mentioned vessels, to the second half of the 2nd century can also be ascribed a fragmentary amphora from the "Cholmskoe" burial ground in the Odessa region, which bears the stamp of Gorgon, an eponym of Group 4 (Fig. 7.3),[70] a chance-find amphora from the necropolis at the Lenin khutor in the Kuban area (Fig. 8.2),[71] and one more vessel from grave 7 in the Western Necropolis of settlement no. 2 at Starokorsunskaja, which bears the eponym stamp of Nikomachos (Fig. 8.1).[72] We also know of examples of fractional amphoras of the Alexandrian variant, one of which (apparently from the second half of the 2nd century) was found in barrow $_3$O near the village of Petuchovka in the district of Olbia (Fig. 7.4).[73] Later amphoras of the first quarter of the 1st century BC come from the Antikythera

Fig. 4. Rhodian long-necked amphoras of type I-E-2 from: 1) Starokorsunskaja necropolis (grave 2/1991; eponym Aristeidas II); 2) Οἰκοδομή Παπαγεοργίου "λάκκος", Rhodos (after Wallace Matheson & Wallace 1982; eponym Theuphanes); 3) Cyprus, private collection (after Empereur & Hesnard 1987; eponym Ainesidamos II); 4) Chersonesos, 57/37102 (eponym Eudamos?); 5) Starokorsunskaja necropolis, 1938. →


ΕΠΙΑΙΝΗΣΙΔΑΜΟ
ΠΑΝΑΜΟΥ
ΑΜΥΝΤΑ
3
ΒΡΟΜΙΟΥ
50
CM
100
MM
10
20
0
0
5

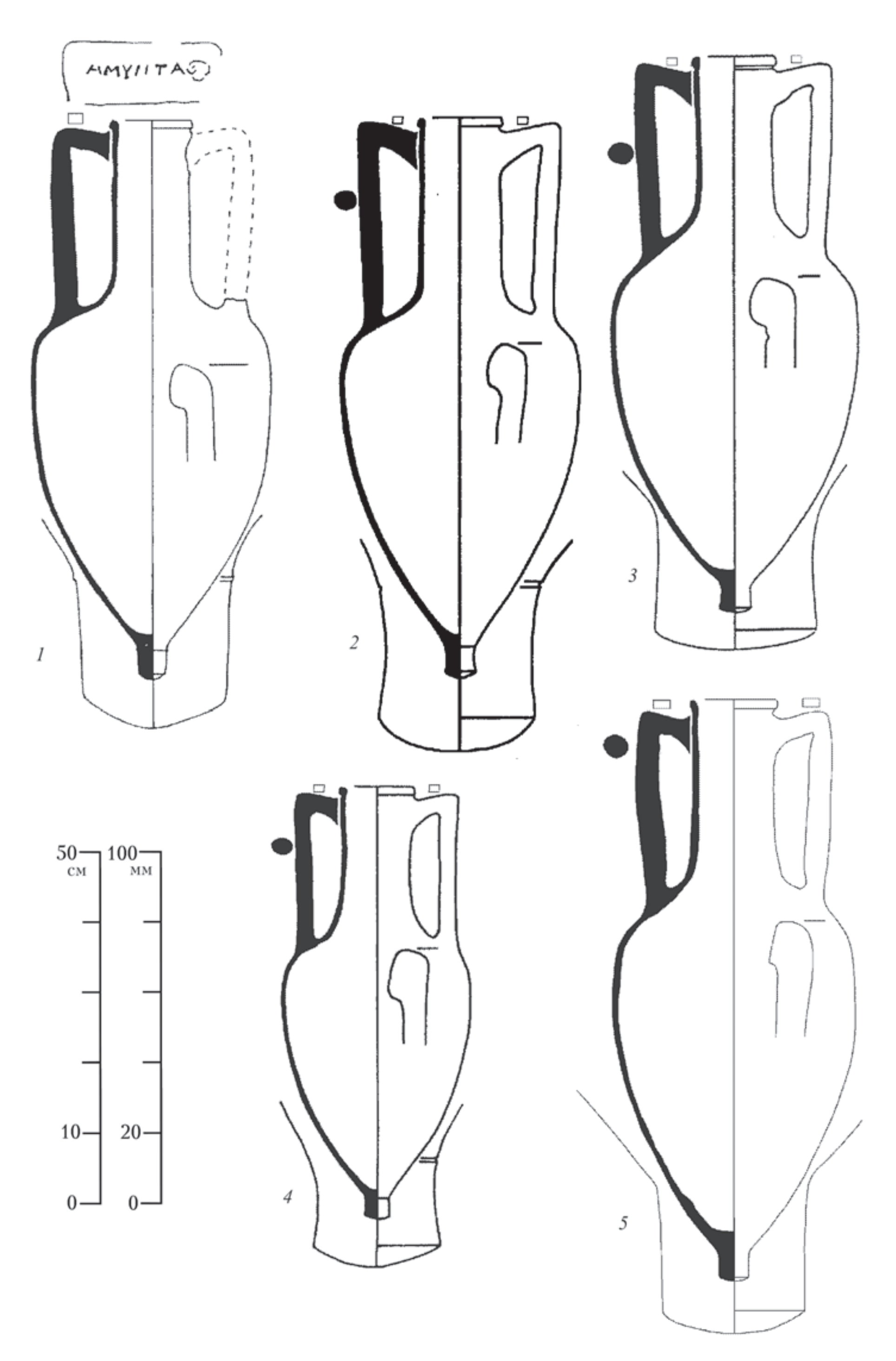


Fig. 5. Rhodian long-necked amphoras of type I-E-2 from: 1) Olbia; 2-4) necropolis of Tanais (2: grave 237; 3: grave 178; 4: grave 261; eponyms Archilaidas, Xenophantos, Aristodamos); 5) Starokorsunskaja necropolis, 2002.

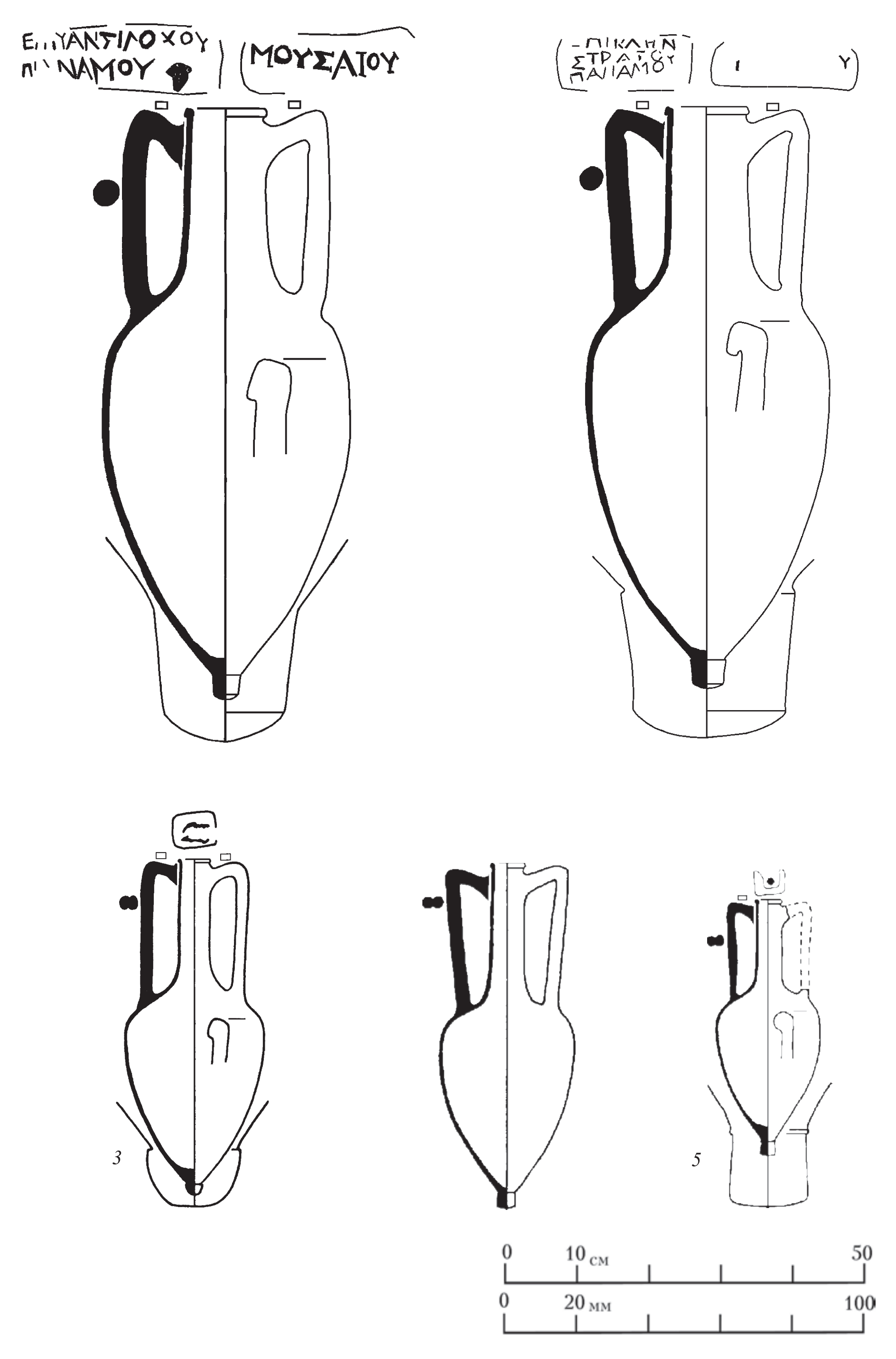


Fig. 6. Rhodian long-necked amphoras of type I-E-2 from: 1-2) Starokorsunskaja necropolis (1: grave 44/1995; 2: grave 8/1994; eponyms Antilochos and Klenostratos); 3) Gorgippia; 4) the Hermitage Museum; 5) Chersonesos.

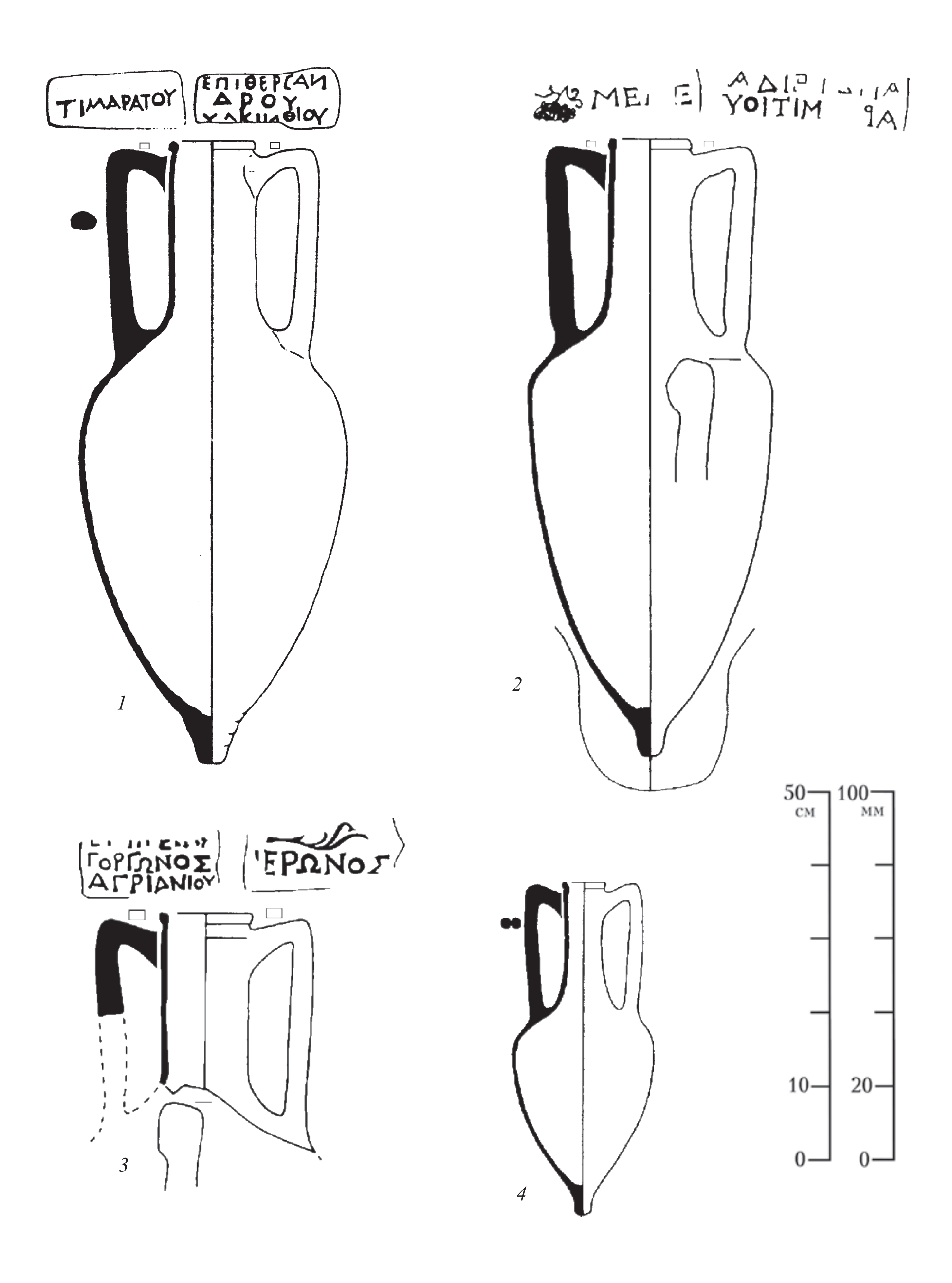


Fig. 7. Rhodian long-necked amphoras of type I-F from: 1) Alexandria (after Empereur & Hesnard 1987; eponym Thersandros); 2) necropolis of Tanais (eponym Aristeidas III); 3) Cholmskoe burial site (eponym Gorgon); 4) tumulus $_3$O near Petuchovka (after Ebert 1913).

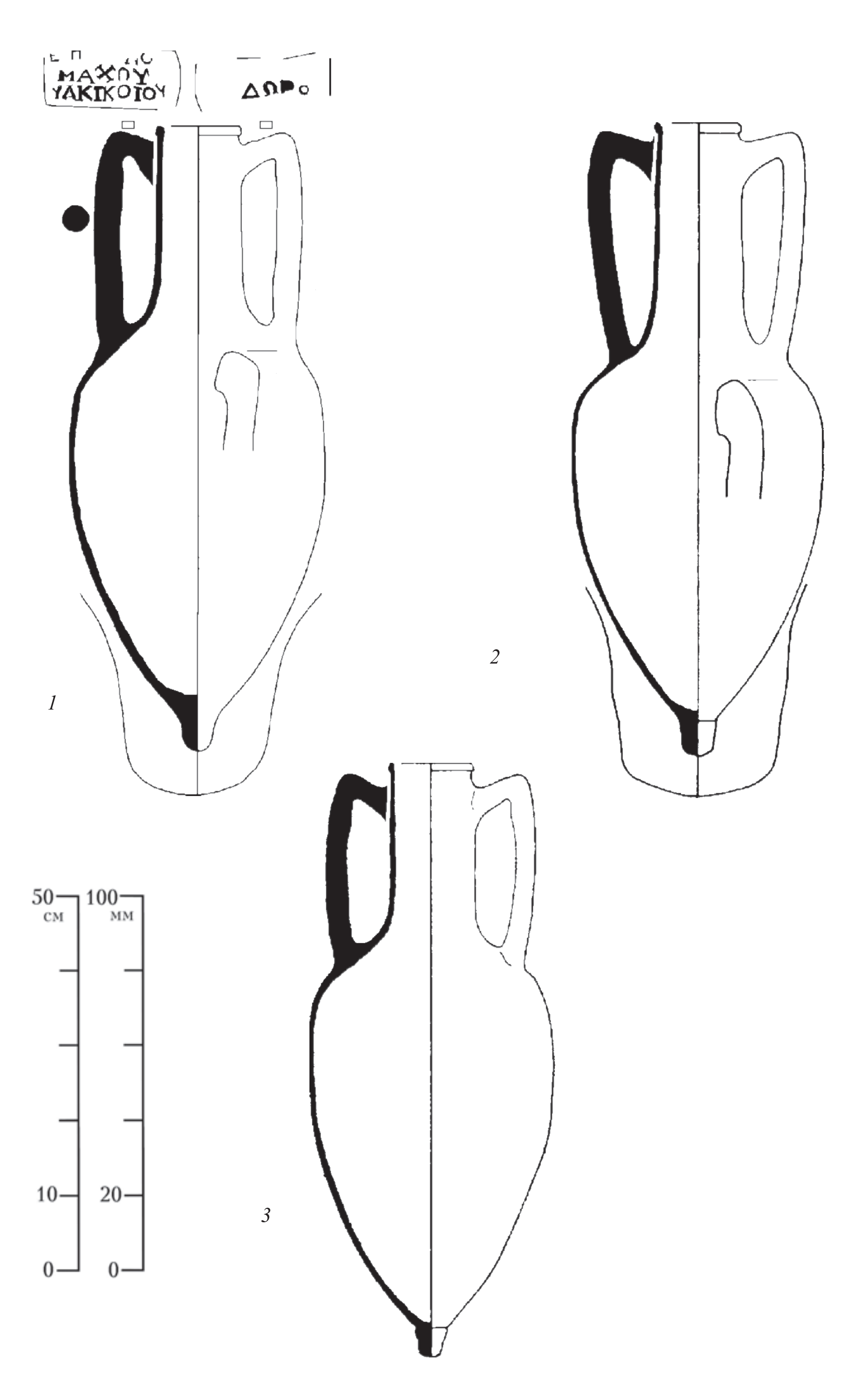


Fig. 8. Rhodian long-necked amphoras of type I-F from: 1) Starokorsunskaja necropolis (grave 7/1994; eponym Nikomachos); 2) Lenin *khutor*; 3) Antikythera shipwreck (after Empereur & Hesnard 1987).

wreck (Fig. 8.3).[74] It is possible that this form lasted to the end of the magistrate stamping around 30 BC. The handles of the amphora become curved and distinctly raised, and the toes are cruder. Later on, in the period of the Principate and the Empire, Rhodian amphoras would continue to evolve in this direction. However, the morphology during these later periods lies outside the scope of the present study.

Amphoras of *Type 2* (or the Benachi type, with short necks) have several morphological features that are somewhat unusual for Rhodos: a wide pithoid body, a high beak-like rim and a peg toe. The diagnostic parts of the Benachi type in fact follow the lines characteristic of the Kyrenia variant, but the profile of the body is quite different. Unfortunately, only isolated examples of the Benachi-type vessel have been found, and for this reason it is difficult to establish the date at which it emerged. It is noteworthy that Virginia Grace initially dated the amphora from the Benachi collection, which for a long time was a unique example of its kind and the only one described, to the end of the 4th century BC,[75] despite the fact that it bore the retrograde stamps of the Group-1 eponym Polyaratos, and of the fabricant Mikythos (Fig. 9.1). Recently, however, in connection with the revision of Rhodian chronology, it was correctly re-dated to the end of the first quarter of the 3rd century (around 275 BC).[76]

Today still other finds have come to light. Several fragmented and, unfortunately, unstamped amphoras were found in the deposits from area "B" of the settlement of Kozyrka II, the monumental building U6 (Fig. 9.2)[77] and complex U7[78] at Panskoe I. The archeological context suggests that these date from the first quarter of the 3rd century BC, probably from the 270s BC. A small fragment of the neck of a Rhodian amphora, bearing on its handle the stamp of an early fabricant, Sotas I, preserved in the collection of the Anapa museum (Fig. 9.3)[79] should also be regarded as one of the Benachi type. The rim of this fragment is more massive than that of the amphora in the Benachi collection, and the Sotas stamp gives grounds for dating this example to the 280s-70s. A further fragment of a neck with the stamp API | ΣTI on the handle comes from the settlement of Elizavetovskoe (Fig. 9.4),[80] the most recent layers of which (or rather – the layers from the late Greek *emporion* on this territory) date to the 260s.[81] An intact amphora from the Kazanlyk barrow (Fig. 9.5),[82] known to me only from the published description, should also be included in the Benachi type. Judging by its dimensions, it represents a fraction of the denomination of the jars from Alexandria and Panskoe I. Thus it appears that the production of the Benachi type was relatively short-lived, being confined to roughly the first third of the 3rd century BC, after which production ceased, and a long-lasting tradition of manufacturing only the Type-I vessels was established on Rhodos.

The manufacture of Rhodian amphoras appears to have followed the same norms and tendencies observed at a number of other centres. During the initial stages of mass amphora production several morphological traditions co-existed: thus at a certain stage in the first third of the 3rd century BC two

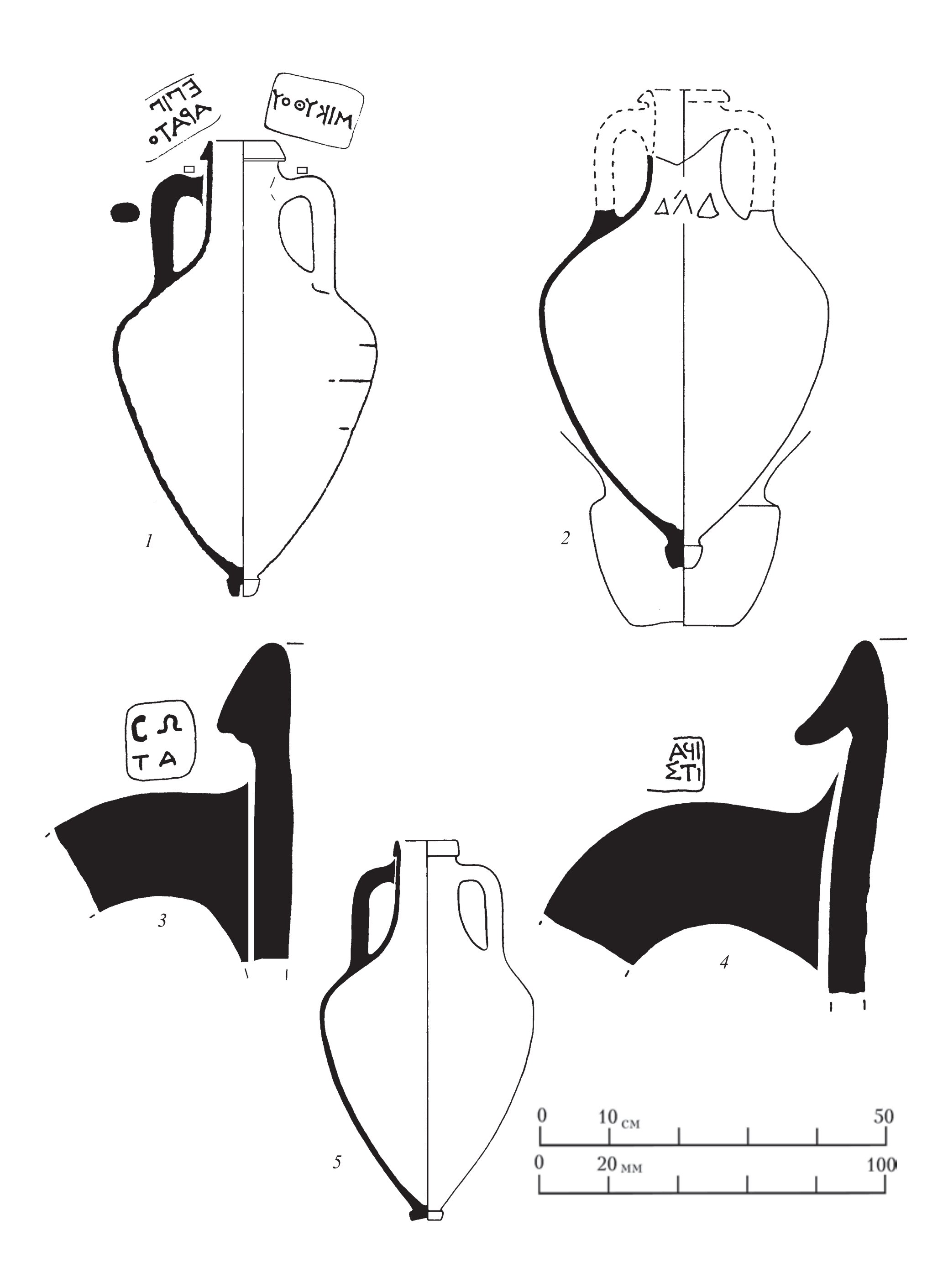


Fig. 9. Rhodian short-necked amphoras of type II from: 1) Benachi collection (after Grace 1963 and Empereur & Hesnard 1987; eponym Polyaratos); 2) building U6 at Panskoe I; 3) the Anapa Museum (fabricant Sotas); 4) Elizavetovskoe (fabricant Aristi( )); 5) Kazanlyk barrow (after a photograph).

types of amphoras, which we have designated Type 1 (with the long neck) and Type 2 (with the short neck), were produced simultaneously. At the same time, several smaller versions of both types were also produced.

At the end of the second quarter of the 3rd century BC one model (Type 1) triumphed and became not only the basic but the only type produced, so that for over two centuries afterwards Rhodian amphora production was oriented exclusively towards this type of vessel. Indeed, the standard model was gradually modified and changed. However, these changes affected only the secondary details (the profile of the rim, shoulders, handles, toe etc.), which makes it relatively easy to follow the development of the various forms. It appears that the production of amphoras peaked at around the second half of the 3rd century and the first half of the 2nd century BC, coinciding with the emergence of the Villanova variant, a hypothesis that is well-attested by the stamps.

Unfortunately, we cannot get a clear idea of the dynamics and evolution of the types and standards of the Rhodian amphoras in all instances. In particular, we do not have any data on the capacity of the Kyrenia (variant I-A) amphoras or of the Type-2 (Benachi) vessels. However, the facts known to us can be roughly outlined in the following table:

Table 1.

Type	**Variant, series**	**Standard denomination or fractions, Attic *choes***	**Capacity, litres**	**Dating, BC**
I *'long-necked'*	I-A *Kyrenia*	no data	no data	Late 4th – early 3rd cent.
	I-B *Koroni*	8 7	26,26 19,70	2nd quarter of the 3rd cent.
	I-C *Mykmekion*	8	26,26	2nd quarter – middle of the 3rd cent.
	I-D *Pietroiu*	8	26,26	2nd quarter – middle of the 3rd cent.
	I-E *Villanova, early series I-E-1*	8 1	26,26 3,28	Middle – 2nd half of the 3rd cent.
	I-E *Villanova, late series I-E-2*	7 1 0,5	22,98 3,28 1,64	Late 3rd – 2nd cent.
	I-F *Alexandrian*	8 6 (?)	26,26 19,70	2nd half of the 2nd – 1st cent.
II "*short-necked*" (Benachi)		no data	no data	1st third of the 3rd cent.

Table 2. *Metric characteristics of the Rhodian amphoras. The capacities are measured with water or grain; those marked with an asterisk (*) are calculated on the basis of drawings made on the scale 1:1.*

Findspot/Present location	**Dimensions, mm**						**Capacity, litres**	**Stamps**	**Fig.**
	H	H_o	H_1	H_3	D	d			
Typ 1 (*long-necked*) Variant I-A (*Kyrenia*)									
Kyrenia shipwreck	~930	~830	~400	280	360	–	–		1.1
Golfe de Fos	~980	~880	~495	290	375	–	–		1.2
Typ 1 (*long-necked*) Variant I-B (*Koroni*)									
Attica, Koroni	~770	725	~345	~250	395	–	–	Chrysostratos, ep.	1.4
Thasos, Silen Gate, no. 84	–	–	–	~230	–	108	–	Mentaios, ep.	1.5
Elizavetovskoe, room 52/1986	~730	~665	315	185	380	98	28,18*		2.1
Rhodos, A419	796	–	370	260	357	–	27,54	Aretakles, ep.	2.2
Typ 1 (*long-necked*) Variant I-C (*Myrmekion*)									
Myrmekion	705	660	325	200	360	95	–	Axios, fab.	2.3
Rhodos, BE-1342	768	710	340	210	380	100	–	Lysandros, ep.	2.4
Typ 1 (*long-necked*) Variant I-D (*Pietroiu*)									
Pietroiu, 15107	738	660	310	215	380	98	28,50	Polykles, ep.	2.5
Pietroiu, 15106	720	665	320	225	410	90	26,00	Timostratos, ep.	2.6
NPTCh, 9/36683	–	–	–	–	360	–	–		
Typ 1 (*long-necked*) Variant I-E (*Villanova*), Series I-E-1 (*early*)									
Athens, SS370	757	710	350	230	367		27,00	Kallikratidas, ep.	3.1
KubU, grave 1/1987 Starokors. necropolis	755	690	340	240	360	95	24,64*		3.2
KubU, grave 1/1987 Starokors. necropolis	772	716	355	235	358	96	25,13*	Pausanias, ep.	
Rhodos Mus., A-64	801	737	360	235	358	100	24,20	Pausanias, ep.	3.3
AAM, 9228	745	676	335	220	358	100	26,00*		3.4

KM, grave 13/1992 Starokors. necropolis	–	700	365	240	365	100	26,00*	Kallikratidas, ep.	3.5
KM, grave 2/1991 Starokors. necropolis	778	725	345	220	370	100	26,00*	Kallikratidas, ep.	3.6
AAM, 10933/70, Gorgippia, 1978	473	235	255	170	195	33	3,90		6.3
Typ 1 (*long-necked*) Variant I-E (*Villanova*), Series I-E-2 (late)									
KM, grave 2/1991 Staro-kors. necropolis	768	728	370	235	358	95	25,89*	Aristeidas, ep.	4.1
Athens, SS9991	765	715	340	240	356	–	25,14	Thestor, ep.	
Rhodos, A-33	782	726	380	240	352	96	26,00	Theuphanes, ep.	4.2
Cyprus, private coll.	810~	–	–	–	~385	–	–	Ainesidamos, ep.	4.3
NPTCh, 57/37102	–	–	380	260	360	100		Eudamos, ep.?	4.4
KM, chance find of 1938 near Starokorsuns-kaja	780	714	350	230	350	96	25,71*	illegible	4.5
APO, O-73/140	800	734	365	230	344	94	–	Amyntas, ep.	5.1
RM, 11140, grave 237 from Tanais	798	735	370	260	345	103	27,00	Archilaidas, ep.	5.2
RM, 11134, grave 178 from Tanais	805	743	390	225	355	99	29,30*	Xenophantos, ep.	5.3
RM, 11141, grave 261 from Tanais	618	576	300	190	270	88	12,43	Aristodamos, ep.	5.4
KM, 2002 Starokors. necropolis	832	758	460	254	344	114	–	illegible	5.5
KM, grave 44/1995 Starokors. necropolis	826	768	460	235	344	90	–	Antilochos, ep.	6.1

KM, grave 8/1994 Starokors. necropolis	810	758	400	226	340	94	–	Klenostratos, ep.	6.2
Nicosia Museum	785	735	390	250	336	110	24,00	Archilaidas, ep.	
NPTCh, KP-269	–	–	365	255	365	94	26,20*	illegible	
Rhodos, Villa-nova deposit	784	–	360	–	352	110	26,65	Kratidas, ep.	
SHM, B.7268	480	450	255	190	177	33	3,90		6.4
NPTCh, 137/37050	358	315	190	115	146	28	1,75	Square with a pellet	6.5
Typ 1 (*long-necked*) Variant I-F (*Alexandrian*)									
Alexandria, 21703	~840	~770	–	–	~360	–	–	Thersandros, ep.	7.1
RM, unnum-bered grave from Tanais	840	775	350	230	336	92	27,23*	Aristeidas, ep.	7.2
OAM, tumulus 1 near Cholmskoe	–	–	–	245	–	100	–	Gorgon, ep.	7.3
Tumulus $_{3}$O near Petuchovka	448	410	235	170	181	–	–		7.4
KM, grave 7/1994 Starokors. necropolis	834	760	460	235	342	92	–	Nikomachos, ep.	8.1
KM, 5455/1421, Lenin khutor	856	785	450	300	338	91	25,24*	illegible	8.2
Antikythera wreck	~800	~750	–	–	~330	–	–		8.3
Typ 2 (*Benachi* or *short-necked*)									
Alexandria Museum, Bena-chi Coll.	663	600	300	170	390	–	–	Polyaratos, ep.	9.1
Panskoe U6/13, find list 8/14	–	~645	~320	~160	420	–	–		9.2
Panskoe U6/14, find list 7/3	–	–	350	170	448	120	–		
Kazanlyk bar-row	543	–	–	–	305	–	–		9.5

Abbreviations to the table

AAM	–	The Anapa Archaeological Museum
APO	–	The Archaeological Preserve "Olbia", Parutino
NPTCh	–	National Preserve "Taurian Chersonesos", Sevastopol
SHM	–	The State Hermitage Museum, St Petersburg
KM	–	The Kuban Museum, Krasnodar
KubU	–	Kuban State University
OAM	–	The Odessa Archaeological Museum
RM	–	The Rostov Museum
SarU	–	Saratov State University

Notes

1 Dupont 1982, 208.
2 Grakov 1939a, 28.
3 Grace 1952, 514, 525; Grace 1953; Grace 1956; Grace 1963.
4 Grace & Savvatianou-Petropoulakou 1970, 286.
5 See also contributions by Rotroff and Lawall in this volume.
6 Badal'janc 1987; Badal'janc 1989, 229; Badal'janc 2000; Badal'janc 1999, 247-253.
7 For the criticism of Ju.S. Badal'janc's view, see Kac 2002a; Kac 2002b; Kac 2003b. At the same time, Badal'janc is right in stating that the fabricant stamping in Rhodos occurs before the magisterial. However, according to his chronological scheme, Group 10 of the fabricant stamps falls into the third quarter of the 4th century BC (Badal'janc 1980, 6; Badal'janc 1999, 250), which certainly is dating it too early.
8 Grace 1974, 194-195.
9 Finkielsztejn 1995, 279-296; Finkielsztejn 2001; Ariel & Finkielsztejn 2003, 139.
10 Empereur & Hesnard 1987, 58-61; Empereur 1988; Empereur & Tuna 1989; Empereur, Hesse & Tuna 1999.
11 Kac 2003b, 156-167.
12 Börker & Burow 1998.
13 Empereur & Hesnard 1987, 58-61, pls. 2 and 3; Sciallano & Sibella 1991, 93-94. For the capacities of the Rhodian amphoras, see Wallace Matheson & Wallace 1982; Wallace 1986.
14 Katzev 1970b.
15 Katzev 1970b. Along with the first publication, the drawing of this jar can also be found in Empereur & Hesnard 1987, 18, 58, pl. 2, no. 7 and Sciallano & Sibella 1991, 89.
16 Sciallano & Sibella 1991, 89 (photo and drawing).
17 Monachov 1999a, 477, pl. 205.9.
18 Badal'janc 1978, 214, no. 60.
19 Brašinskij 1980, 200, no. 769. One more stamp of the same die, which is not listed by Brašinskij, is preserved at the Rostov Museum (inv. no. 5127/190) and originates from excavations of 1979.
20 Kolesnikov 1985b, 78, fig. 4, no. 162.
21 The Cherson Museum, inv. no. A-6487.

22 The Kerch Museum, inv. no. K-8869 (following the old numeration). I owe the information about this neck fragment with a stamp on the handle to V.I. Kac. The find-spot is unknown. The Museum possesses one more amphora handle stamped with the same die (inv. no. 9489).
23 Kac 2003b, 157-158, tab. 1.
24 One should mention, however, that there is a representative group of non-Rhodian rectangular stamps with the name of Timarchos in one line, which appear on handles of the so-called Kolchian amphoras made of a coarse brown clay. See Vinogradov & Onajko 1975, 88, fig. 6 (photo of a stamp); Cecchladze 1992, 105-106, fig. 8, no. 1. Several stamps of this kind are registered in *IOSPE* III, nos. 2292-2296. One more fragment of the typical Kolchian amphora with Timarchos was found in Porthmion in 1990 (find list 239). It is evident that the Kolchian stamps with Timarchos belong to the much later period: the second half of the 3rd-the 2nd century BC.
25 See Monachov 1999a, 362, pls. 159-161.
26 Grace 1963, fig. 1, no. 5; Empereur & Hesnard 1987, 58, pl. 2, no. 9.
27 Rotroff 1997b, 31-33. See also her contribution in this volume.
28 See Monachov 1999a, 491, pls. 209 and 210.
29 A similar amphora neck was found in the workshop in the Rhodian peraia, see Empereur & Tuna 1989, 281, fig. 8.
30 See Ščeglov 2001, 64, 70, fig. 7.16. A.N. Ščeglov based on the opinions of V. Grace and I.B. Zeest attributed this amphora as the Samian or of the "Ust'-Laba" type. He justly notes that my publication of this deposit (Monachov 1999a, 551, pl. 232) does not take into account all the material found there, including the above-mentioned upper part of the Rhodian (!) amphora. However, I was not able to find any report on the rescue excavations of 1967 in the Archives of the Chersonesean Preserve.
31 Grandjean 1992, 569, fig. 14, no. 84. Stamps ΕΠΙ | ΜΕΝ | ΤΑΙΟΥ and ΚΑΛ | ΛΙΚΛ | ΕΥΣ.
32 Kac 2003b, 156.
33 Grace 1986, 564, fig. 5, nos. 23, 27 and 28. Stamps ΕΠΙ | ΑΡΕ | ΤΑΚΛΕΥΣ and ΔΗΜΗ | ΤΡΙΟΥ.
34 Similar rims are recorded from the settlement of Elizavetovskoe. See Brašinskij 1980, pl. 23, no. 3.
35 Gajdukevič 1941, 134, fig. 40. The second handle of the Myrmekian amphora must have had an eponym stamp. I cannot prove this, however, since the present location of the jar is unknown.
36 Brašinskij 1984a, 119, pl. 25.5.
37 Kac 2002b, 252.
38 Zin'ko 2003, 171, 173, fig. 5.1. The amphora was accompanied by an unguentarium.
39 Lazarov 1973, 42, pl. 19, no. 195. Found in the sea.
40 Grace 1963, 323, fig. 1, no. 6.
41 Finkielsztejn 2001, 188. He dates Lysandros about 262 BC.
42 The reading of one magistrate name now requires correction – the deposit contains the stamp of the Group-Ib magistrate Polykles, not Polykrates, as conjectured in *editio princeps* and accepted uncritically in my publication (see Monachov 1999a, 533, pls. 224 and 225). I am grateful to V.I. Kac for this correction (stamps of

Polykles reading ΕΠ ΙΕΡΕ | ΩΣ ΠΟΛ | ΥΚΛΕΥΣ are recorded in *IOSPE* III, nos. 3683-3684).

43 Finkielsztejn 2001, 188. On the workshop of Hieroteles, see Empereur & Tuna 1989; Empereur, Hesse & Tuna 1999, 105-110.

44 See Monachov 1999a, 551, pl. 232.3.

45 For the criticism of my dating, see Ščeglov 2001, 64, 70, fig. 7.14.

46 Grace 1963, 323, fig. 1, no. 7.

47 Grace 1974, 197, note 17. This date is accepted by other scholars: Empereur & Hesnard 1987, 60, pl. 3, no. 10; Garlan 2000, fig. 38.b. Both Empereur & Hesnard's publication and Garlan's monograph show the amphora as having both handles preserved. In fact, one handle of the jar is missing.

48 See Monachov 1999a, 547, pl. 229.

49 Wallace-Matheson & Wallace 1982, 320, pl. 80.a. Rectangular stamps with a legend in two lines: ΕΠΙ ΠΑΥ | ΣΑΝΙΑ and ΜΙΚΥΘΟΥ | ΑΓΡΙΑΝΟΥ; the date according to Finkielsztejn 2001. For more amphora with the stamp of Pausanias, see Ariel & Finkielsztejn 2003, 138.

50 Inv. no. 9228. The jar was found in the sea in 1975.

51 See Monachov 1999a, 548, pl. 230. A correction is needed, in that the deposit contained the stamp of Kallikratidas I, not of Kallikratidas II.

52 The Kuban Museum, inv. no. 10048/62. Excavations by N.Ju. Limberis. Stamps on the handles of this amphora read ΕΠΙ ΚΑ | ΛΛΙΚΡ | ΑΤΙΔΑ (emblem "head of Helios") and ΑΡΤΕΜΙ | ΔΩΡΟΣ | ΘΕΣΜΟΦΟ(ΡΙΟΥ).

53 The Anapa Archaeological Museum, inv. no. 10933/70. Excavations of 1978.

54 Wallace-Matheson & Wallace 1982, 320, pl. 80.b. Circular stamps ΕΠ ΙΕΡΕΩΣ ΘΕΥΦΑΝΕΥΣ and ΚΛΕΙΣΙΜΒΡΟΤΙΔΑ.

55 See Monachov 1999a, 548, pl. 230. Should be dated now to the 160s BC.

56 At greater length, see Monachov 1999a, 540, pl. 227, where, however, I gave too early a date for the deposit of Villanova.

57 Grace 1979, fig. 62 (the last on the left); Grace 1963, 325, 334, fig. 1, no. 9.

58 Empereur & Hesnard 1987, 60, pl. 3, no. 11. Stamps ΕΠΙ ΑΙΝΗΣΙΔΑΜΟ | ΠΑΝΑΜΟΣ and ΑΜΥΝΤΑ.

59 On the deposits from Tanais, see Monachov 1999a, 553, pls. 233-234. Grace dated these magistrates to the period 182-176 BC. See Grace 1985, 8, 10. According to Finkielsztejn (2001, 192-193) they belong to the 160s and 150s BC. One more amphora with the stamp of Archilaidas is preserved at the museum of Nicosia on Cyprus, see Grace 1949, 5, pl. 19, no. 5; Grace 1986, 519.

60 Arsen'eva 1977, 79; Šelov 1975, 40, 107.

61 Excavations by N.Ju. Limberis and I.I. Marčenko. Stamps ΕΠΙ ΚΛΗΝΟ | ΣΤΡΑΤΟΥ | ΠΑΝΑΜΟΥ (on the amphora from grave 8) and ΕΠΙ ΑΝΤΙΛΟΧΟΥ | ΠΑΝΑΜΟΥ and ΜΟΥΣΑΙΟΥ (on the amphora from grave 44). It is very likely that the first magisterial stamp was re-engraved. For the similar stamp, see Šelov 1975, 59, no. 136. Among the datable imports, grave 8 (or 250*з* according to the new numeration) contained a Megarian bowl, see Limberis & Marčenko 2000, 4-6, fig. 4.

62 NPTCh, inv. no. 57/37102. Excavations of 1985 by S.G. Ryžov. The magisterial stamp cannot be reliably read. Most likely it includes the name of Eudamos, the official of Group 3 (a suggestion by Ju.S. Badal'janc). NPTCh, KP, no. 269 (chance find, the stamp is illegible); APO, find list O-73/140 (with the fabricant stamp of Amyntas on the handle preserved); the Kuban' Museum, no inventory number, excavations of 1938 near the village of Starokorsunskaja (the stamps are illegible).

63 SHM, inv. nos. B 7268 и 7276. On these amphoras, see Brašinskij 1984a, nos. 22 and 23.
64 NPTCh, inv. no. 137/37050. Excavations of 1982 by S.G. Ryžov.
65 See Monachov 1999a, 559, pls. 236 and 237.
66 Zajcev 1995, 77, 79, 87, fig. 6.22. See also Zajcev's contribution in this volume.
67 Empereur & Hesnard 1987, 60, pl. 60, no. 12. Stamps ΕΠΙ ΘΕΡCΑΝ | ΔΡΟΥ | Υ ΑΚΙΝΘΙΟΥ and ΤΙΜΑΡΑΤΟΥ to be dated according to Finkielsztejn's 2001 to the middle of the 130s BC.
68 See Monachov 1999a, 557, pl. 235.
69 Virginia Grace's opinion in her letter from 18.06.1990, which is consistent with the Finkielsztejn chronology.
70 OAM, find list Izm.-77. Grave 5 of kurgan 20. Stamps ΕΠ ΙΕΡΕΩΣ | ΓΟΡΓΩΝΟΣ | ΑΓΡΙΑΝΙΟΥ and ΙΕΡΩΝΟΣ, emblem "branch". See Brujako 1999, 79, no. 3, fig. 2.1.
71 Kuban' Muzeum, inv. no. 5455/1421; find of 1980. Stamps are illegible.
72 Excavations by N.Ju. Limberis and I.I. Marčenko. The amphora is unpublished; datable to c. 100 BC; stamps ΕΠΙ ΝΙΚΟ | ΜΑΧΟΥ | ΥΑΚΙΝΘΙΟΥ and ΔΩΡΟ | Υ. On a combination of these stamps, see Badal'janc 2000, 300.
73 Ebert 1913, 68, Abb. 73.
74 Grace 1965, pl. 3; Empereur & Hesnard 1987, 60, pl. 3, no. 13.
75 Grace 1963, 324, fig. 1, no. 1.
76 Empereur & Hesnard 1987, 58, pl. 2, no. 8.
77 Kac, Monachov, Stolba & Ščeglov 2002, 112, pl. 48.Ad 84.
78 Monachov 1999a, 475, 497, 509, pls. 204, 211-214, 221.
79 Anapa Archaeological Museum, no inventory number.
80 RM, inv. no. 4518/АЖ. See Brašinskij 1980, 199, pl. 34, no. 764 (enlisted in the group "others").
81 Kac 2001, 90. Indeed, this fragment found outside the stratified context may also belong to the slightly earlier period, *e.g.* to the 280s or 270s BC.
82 Živkova 1976, 19, photo on p. 18. The drawing of the amphora was made based on the reported dimensions and the photograph. The traditional data of Kazanlyk (the late 4th-first quarter of the 3rd century) seems to me a bit too early.

The Dynamics of Trade in Transport Amphoras from Sinope, Thasos and Rhodos on the Western Black Sea Coast: a Comparative Approach

Niculae Conovici

One of the means most employed for dating archaeological complexes in the Hellenistic period is provided by the amphoras and the amphora stamps from important Greek production centres such as Thasos, Rhodos, Knidos in the Aegean, and Herakleia Pontike, Sinope or Chersonesos on the Black Sea. In recent decades, the chronologies of the amphora stamps from these centres have gained considerably in precision, due to the increased number of closed deposits published, and to the efforts of specialists such as V. Grace,[1] Y. Garlan,[2] M. Debidour,[3] Y. Grandjean,[4] V.I. Kac,[5] S.Ju. Monachov,[6] J.-Y Empereur,[7] E. Doğer,[8] G. Finkielsztejn,[9] N.F. Fedoseev[10] and the present author.[11] Even if the absolute chronologies of the different lists of magistrates have yet to be documented, the relative chronologies divided into "groups", "sub-groups", "blocks of names", "periods", "types" etc. are precise enough to offer a suitable dating for the archaeological assemblages.

These chronologies were devised independently of each other, although the associations of different categories of stamps in the same deposits were noted and used. The time is still far off when we will devise "tables of correspondence" for every year and the annual magistrate names from different amphora exporters. Nevertheless, if we assume that the extant amphora stamp chronologies are generally correct, we may try to compare the influx of transport amphoras coming from several production centres in order to better understand the dynamics of their trade in particular import areas or cities. S.Ju. Monachov has successfully published such comparisons on amphoras from many closed deposits of the Northern Black Sea area.[12] What we still have to study is the evolution in time of the amphora imports from different centres in a particular area, according to the chronological sequences currently proposed, but we are perfectly aware that this approach is severely limited by a number of obstacles. We shall ignore:

1. The total amount of amphoras imported from every centre;
2. The real content of these amphoras (wine, oil, other merchandise), the amphoras' capacities (the same stamp found on standard and fractional amphoras), their prices, the reasons for their importation, the *ratio* of stamped to unstamped amphoras in every centre and its evolution in time, the routes followed on their journey, etc.[13]
3. The economic and political background in the export and import centres at a particular moment: that is, the real circumstances which could determine the directions of export or a preference for one or another kind of merchandise.
4. The nature of relations between the export and import cities and the other merchandise from every production centre that reached the import centres.

So what can we expect to discover from such comparisons?

First, if we compare the number[14] of amphora stamps from different "well dated" export centres in a particular import city during the same chronological sequences we have the chance to see how the extant chronologies fit each other.

Second, if the chronologies are good, we may establish, even approximately, the periods when trade increased, diminished or decayed in that particular import city and, eventually, to parallel them to the known political situation of that city.

Third, if we assume that the Greek cities served as *emporia* for merchandise to the hinterland and the neighbouring barbarian populations, we may better understand the nature of these relations and their evolution in time.

Our knowledge of the amphoras and amphora stamps from the Greek cities of the Western Black Sea coast is uneven. So far, only Istros and Kallatis have offered a large number of amphora stamps, which are published or prepared for publication. Even for these two centres the amount of entire amphoras or amphora fragments published is still very small: in addition we have to consider the lack of published closed deposits. The situation looks better for the amphora stamps: those from Thasos[15] and Sinope[16] are the best studied, and the Rhodian ones are under way.[17] For other Greek colonies (Orgame,[18] Tomis,[19] Bizone,[20] Dionysopolis,[21] Mesambria[22] and Apollonia[23]), the number of published amphora stamps is rather small. We know some other, larger collections of amphora stamps found in the Istrian *chora* (at Cogealac[24] and Sarichioi[25]), in the Kallatian *chora* (at Albeşti),[26] in the necropolis from Murighiol[27] and in the Getic fortified settlement from Satu Nou – Valea lui Voicu.[28] These may be considered "closed deposits", as their existence was shorter in time.

In the following, I will try to analyze the dynamics of the presence of Thasian, Sinopean and Rhodian amphora stamps at Istros, Tomis and Kallatis.

THASOS

For the Thasian stamps at *Istros* I follow Alexandru Avram's information and statistics.[29] For the eponyms on the old style stamps ("timbres anciens") I follow the order proposed by Y. Garlan (1999a), and for the new style stamps ("timbres récents") the one proposed by Avram (1996), with the corrections made by M. Debidour (1998). The four years difference between the two series of stamps (old style and new style) in the two chronologies was eliminated by "dating" the second series four years earlier. The total number of stamps considered is 810.

For Tomis and Kallatis we used the information presented by Avram 1996, tabs. VI (87 items) and VIII (498 items).

The relative frequency of the Thasian eponyms was calculated for periods of 20 years and for decades.

Period	Istros % (810)	Tomis % (87)	Kallatis % (498)
390-371	4.07	0	0
370-351	6.42	2.3	0
350-331	21.11	22.99	4.02
330-311	33.58	43.68	6.02
310-291	8.27	5.75	11.85
290-271	18.02	11.49	26.91
270-251	6.79	8.04	36.34
250-231	1.73	5.75	14.86
	99.99	100	100

Fig. 1 The relative frequencies of the Thasian eponyms at Istros, Tomis and Kallatis by 20 years intervals.

Period	Istros % (810)	Tomis % (87)	Kallatis % (498)
390-381	2.59	0	0
380-371	1.48	0	0
370-361	1.36	0	0
360-351	5.06	2.3	0
350-341	11.48	3.45	2.61
340-331	9.63	19.54	1.41
330-321	13.21	4.6	1.41
320-311	20.37	39.08	4.62
310-301	3.46	4.6	4.62
300-291	4.81	1.15	7.23
290-281	7.78	6.9	10.24
280-271	10.25	4.59	16.66
270-261	2.84	4.59	12.65
260-251	3.95	3.45	23.69
250-241	1.48	4.6	13.45
240-231	0.25	1.15	1.41
	100	100	100

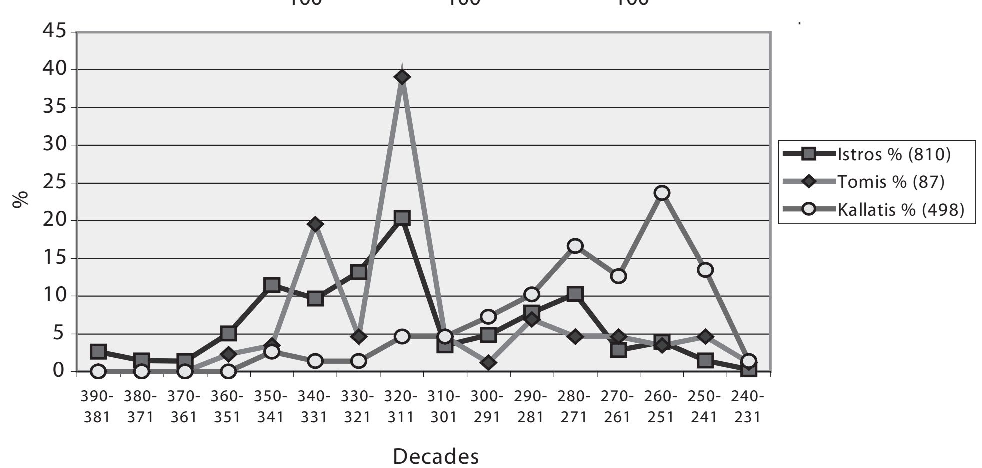


Fig. 2. The relative frequencies of the Thasian eponyms at Istros, Tomis and Kallatis, by decades.

The distribution graph plotted on the basis of 20 years intervals (Fig. 1) shows a similar situation at Istros and Tomis, in spite of the great difference in absolute figures (c. 10:1 ratio) between the two cities.[30] The peak for imports is up to 33.58% at Istros and 43.68% at Tomis in the interval c. 330-311 BC. A somewhat smaller peak can be observed already in the period c. 350-331 BC, with 21.11% and 22.99% respectively. A third peak falls between c. 290-271 BC, with 18.02% and 11.49% respectively. An abrupt drop in imports is registered in the interval of c. 310-291 BC (8.27% and 5.75%). After c. 270 BC,

the Thasian import is in decline in both cities, more severely at Istros. Here, the import of stamped amphoras starts from the beginning of stamping and ends shortly after c. 245 BC. At Tomis, the earliest stamps are from c. 370-351 BC (2 items, in fact from c. 360 BC, the beginning of Group F1 of the old style stamps), and the last ones shortly after c. 240, but the relative frequency is about 3 times greater (5.75%) than at Istros (1.98%).

At Kallatis, the situation is very different. The import of Thasian amphoras starts here only after c. 355 BC (second part of Group F1 of the old style stamps). The volume of imports progressively but slowly increases in the second half of the 4th century BC. In the interval c. 310-291 BC, the relative frequency is larger (11.85%) than at Istros and Tomis (where we registered a drop in the imports). The peak in imports reaches 36.34% between c. 270-250 BC, preceded by a somewhat smaller peak (26.91%) between c. 290-271 BC. Only in the next period, after c. 250 BC, do we see the decline in imports, with a relative frequency of 14.86% (about 7 times larger than at Istros and 3.5 times larger than at Tomis).

The only period with a relatively large quantity of Thasian imports in all three cities is between c. 290-271 BC, yet with a clear preference for Kallatis (26.91%, vs. 17.8% at Istros and 11.49% at Tomis).

The graph of distribution by decades (Fig. 2) offers more details, especially for Istros and Kallatis. At Tomis, the distribution graph shows more abrupt lines due to the much smaller number of items considered.

The peak of the imports falls now between c. 320-311 BC at Istros and Tomis. The second peak is no longer the same in these two cities: c. 350-341 BC at Istros *vs*. c. 340-331 at Tomis. Between c. 330-321 BC we have a small increase at Istros (13.21% from 9.63% in the previous interval) and an abrupt drop at Tomis (4.6% from 19.54%). The third peak is also different: c. 280-271 BC at Istros and c. 290-281 at Tomis. The great drop between c. 310-291 is more acute between c. 300-291 BC at Tomis.

At Kallatis, the progress of the imports is gradual through the second half of the 4th century BC. The peak is between c. 260-251 BC. The preceding somewhat smaller peak occurs between c. 280-271 BC, with a small decline in the next decade, before the great peak mentioned above.

SINOPE

For the Sinopean stamps I follow the chronology established by myself,[31] keeping in mind that its relevance is not the same for the different groups and subgroups. We consider the beginning of the Sinopean stamps with magistrate names at c. 350 BC and the end at c. 190 BC.[32] The absolute number of items is very different: 578 for Istros, 784 for Kallatis and only 119 for Tomis.

The distribution graph for the 20 year intervals of the Sinopean magistrates reveals the main tendencies. It points to a peak in the imports at Istros

Period	Istros % (578)	Tomis % (119)	Kallatis % (784)
350-331	5.19	4.2	0.64
330-311	0.35	4.2	0.38
310-291	2.08	0	1.53
290-271	14.36	15.13	15.65
270-251	37.89	28.57	64.12
250-231	26.64	41.18	12.21
230-211	10.9	5.88	4.07
210-190	2.59	0.84	1.4
	100	100	100
	78.89	84.88	91.98

Fig. 3. The relative frequencies of the Sinopean astynoms at Istros, Tomis and Kallatis, by 20 years intervals.

and Kallatis in the same period, i.e. c. 270-251 BC, covering the second half of Group 4 and the beginning of Group 5.

The distribution line for Kallatis is yet more acute than that for Istros. After a very low presence in the first three intervals, it grows from 1.53% to 15.65% between c. 290-271 BC, up to 64.12% in the following interval, then it drops to 12.21% between c. 250-231 BC and then lower and lower. 92% of the Sinopean imports at Kallatis came between c. 290-231 BC.

At Istros, the first peak comes in the same interval (c. 270-251 BC), but its value is only 37.89%. The second one comes c. 250-231 BC (26.64%). The value for the interval c. 290-271 BC gives the earliest peak, with 14.36%. In all, the three intervals cover 78.9% of the imports. It is interesting to note the relatively high values in the first interval, covering Group 1 of Sinopean stamps, with 5.19% of all the imports, followed by a severe drop in the next two intervals, i.e. Group 2 and the first part of Group 3.

Almost 85% of the Sinopean imports reach Tomis between c. 290-231. Here the highest peak is later than in the other two cities, at c. 250-231 BC,

Period	Istros % (578)	Tomis % (119)	Kallatis % (784)
350-341	0.86	0.84	0.51
340-331	4.33	3.36	0.13
330-321	0.17	3.36	0.13
320-311	0.17	0.84	0.26
310-301	0.52	0	0.38
300-291	1.56	0	1.15
290-281	4.5	5.88	3.06
280-271	9.86	9.24	12.63
270-261	23.53	15.97	49.23
260-251	14.36	12.61	15.05
250-241	19.9	34.45	9.18
240-231	6.75	6.72	3.06
230-221	4.33	0.84	1.66
220-211	6.57	5.04	2.42
210-201	0.86	0.84	0.77
200-190	1.73	0	0.38
	100	99.99	100
	57.79	63.03	76.91

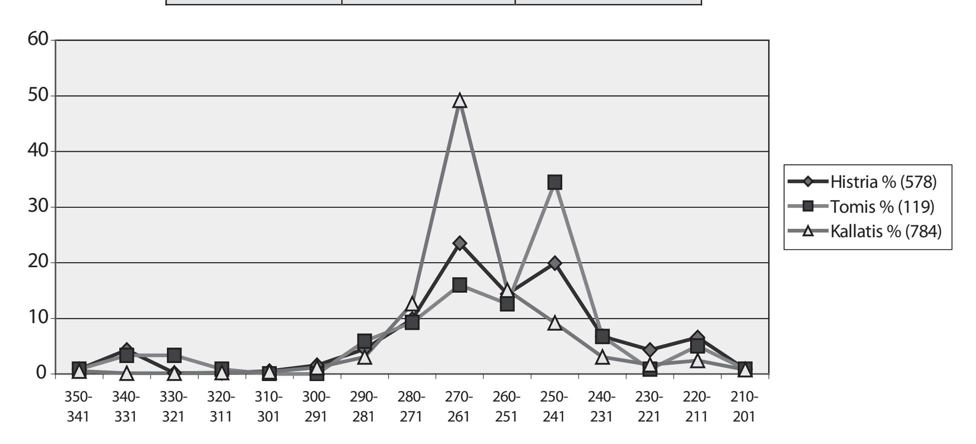


Fig. 4. The relative frequencies of the Sinopean astynoms at Istros, Tomis and Kallatis, by decades.

with 41.18%. The other two peaks came before, at c. 270-251 BC (28.57%) and c. 290-271 BC (15.13%). But the degree of approximation for this city is very high, due to the very small number of stamps.

In order to obtain more details, we have to look at the other distribution graph, that by decades (Fig. 4). We notice now that the period of the influx of Sinopean imports at Kallatis is even shorter, covering the period between c. 280-241, with 86% of the total in only 40 years. The first peak is in the interval of c. 270-261 BC (49.23%, almost the half of all the imports in 10 years!), covering mainly the last two thirds of Group 4.[33]

At Istros, the dynamics of the imports are more stable. After a short period of growth in imports between c. 340-331 BC (second half of Group 1), there follows a long drop in imports (c. 40 years, covering Group 2 and the first part of Group 3). Then the imports increase steadily, reaching their peak between c. 270-261 BC (23.53%).[34] Afterwards, the volume of imports remains high, with a slight decrease during the sub-group Va, and a second peak between c. 250-241 BC. Only from the last decade of the 3rd century BC does the volume of the imports drop dramatically. But we must remember that the officials of our sub-group Ve are not ordered at all, so in the future the distribution line may change in some way.

For Tomis, the distribution line points to a peak of the imports between c. 250-241 BC (34.45%). For the period between c. 270-241 (sub-group Vb mainly) we have 63% of all the imports, a value close to that from Istros. The second highest peak is contemporary with the highest ones from Istros and Kallatis, i.e. c. 270-261 BC.

RHODOS

The Rhodian amphora stamps now have a new chronology, proposed by G. Finkielsztejn.[35] Here we find for the first time a coherent order of the Rhodian eponyms, starting from the author's sub-period Ib (c. 270 BC) up to the end of V. Grace's Period V (108 BC). The most important changes proposed by Finkielsztejn come from the establishing of the real length of Period IV, c. 14-16 years instead of 29-30 in the previous chronology. This correction has modified the dating of the "Pergamon deposit", from c. 205-175 BC to c. 198-161 BC, with all the other series being re-dated accordingly. The arguments for the succession of many eponyms or groups of eponyms are very solid, as they re-establish the activity of many representative amphora workshops in connection with the evidence of some "closed deposits". Yet, the sequence of several names needs supplementary proofs and is inconsistent with other evidence.[36] For the present paper I adopted the Finkielsztejn's chronology, with a few changes in his order of names I consider important.[37]

In the West Pontic area, the number of the Rhodian amphora stamps is quite small,[38] if compared with the Thasian and Sinopean ones or considering the much longer period of issue (about two centuries) and the much greater number of stamps produced in this period. 460 items have been registered from Istros, 225 from Kallatis (partly unpublished) and only 195 from Tomis. For the present approach I selected only the eponym stamps with secure reading. That is 195 from Istros, 103 from Kallatis and 93 from Tomis.

The distribution graph for 20 year intervals (Fig. 5) shows greater differences between the three cities in the import of Rhodian wine.

The earlier peak of the imports is registered at Kallatis, in the interval of c. 260-241 BC (24.27%). The previous interval is also important, with 17.48%

Period	Istros % (195)	Kallatis % (103)	Tomis % (93)
300-281	0	0	0
280-261	2.56	17.48	1.07
260-241	8.72	24.27	2.15
240-221	9.23	9.71	3.23
220-201	10.77	7.77	3.23
200-181	21.03	10.68	15.05
180-161	11.28	10.68	41.93
160-141	18.46	12.62	23.66
140-121	4.62	4.85	5.38
120-101	10.26	1.94	4.3
100-81	2.56	0	0
80-61	0.51	0	0
60-41	0	0	0
	100	100	100

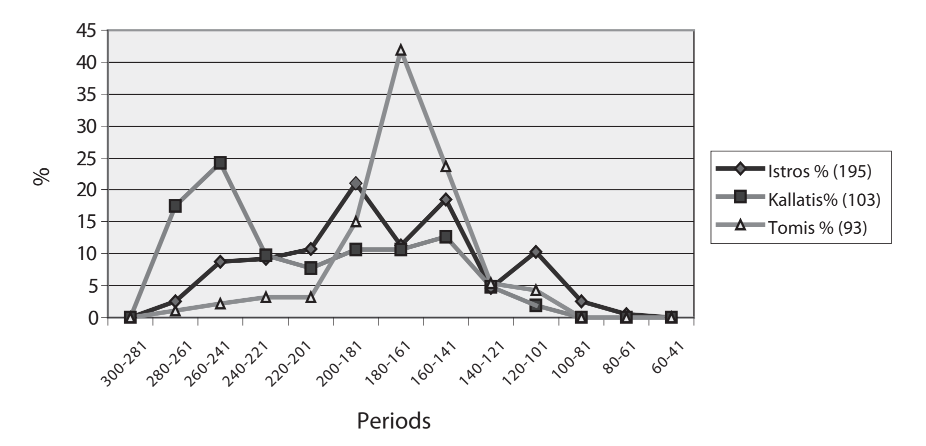


Fig. 5. The relative frequency of the Rhodian eponyms at Istros, Tomis and Kallatis, by 20 years intervals.

of all the imports, amounting to 41.75% of the stamps during Period I. This situation has no analogies in the entire Pontic area! We must remember: (a) during Period I the months were still not mentioned on the stamps, and (b) in the same period the *ratio* of stamping was much smaller than in the subsequent periods, especially 3 to 5. After c. 240 BC, the volume of the imports was relatively constant for about a century, with a small increase between c. 160-141 (Period IV and the beginning of Period V) followed by a constant decrease until the end of the century.

At Istros we have a constant growth in imports starting from the subperiod Ib, with a "normal" first peak (21.03%) in the interval c. 200-181 BC (end of Period II – beginning of Period III). The second one (18.46%) comes

Period	Istros % (195)	Kallatis % (103)	Tomis % (93)
300-291	0	0	0
290-281	0	0	0
280-271	1.02	3.88	0
270-261	1.54	13.59	1.07
260-251	4.1	22.33	1.07
250-241	4.62	1.94	1.07
240-231	3.08	4.85	3.23
230-221	1.54	4.85	0
220-211	10.26	3.88	1.08
210-201	4.62	2.91	2.15
200-191	4.62	3.88	4.3
190-181	16.92	5.82	10.75
180-171	4.62	7.77	29.03
170-161	6.66	4.85	12.9
160-151	10.26	3.88	11.83
150-141	8.2	8.74	11.83
140-131	4.1	3.88	5.38
130-121	0.51	0.97	0
120-111	5.64	0.97	3.23
110-101	4.62	0.97	1.07
100-91	2.05	0	0
90-81	0.51	0	0
80-71	0.51	0	0
70-61	0	0	0
60-51	0	0	0
50-41	0	0	0
	100	99.96	99.99

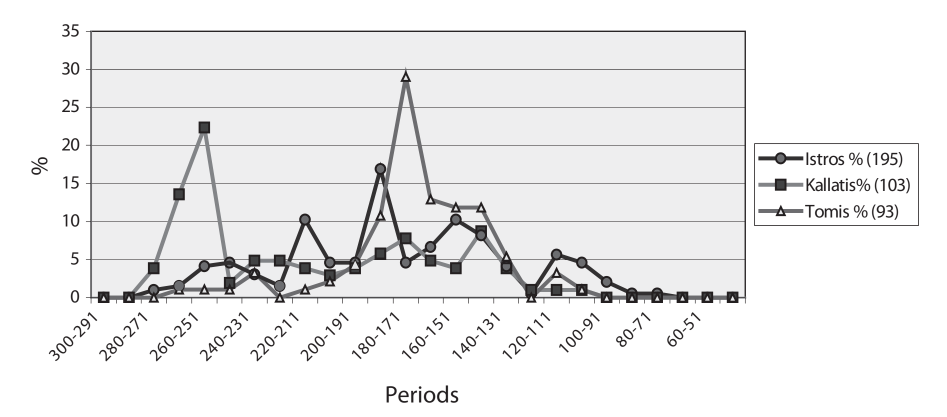


Fig. 6. The relative frequencies of the Rhodian eponyms at Istros, Tomis and Kallatis, by decades.

between c. 160-141 BC, corresponding to the slight growth at Kallatis. The later stamps cover Period VI, and the last stamp may come from the interval c. 80-61 BC (Period VII). This dynamic seems to be in accordance with the Rhodian production, indicating a constant flow of imports from that direction, although not too great in volume.

At Tomis, the peak in imports comes between c. 180-161 BC (41.93%). With the second and the third peaks in the next and the previous interval, Tomis accounts for 75% of all the stamps between c. 200-141, covering mainly periods III and IV and a little beyond that point.

The graph of distribution by decades (Fig. 6) adds new information.

At Kallatis we see the first peak between c. 260-251 BC (22.33%), with 8-9 percent above that of the previous decade (13.59%). Then we have a drop to 1.94% at the end of Period I; afterwards we have a "normal" evolution, with higher figures between c. 180-171 BC and c. 150-141 BC. From c. 130 BC, the volume of the imports is very low.

At Istros, the import dynamics look less constant than in the previous graph. We notice the first important growth between c. 220-211 BC (10.26%), that is the middle of Period II (sub-period IIb according to Finkielsztejn). We notice an equal value between c. 160-151 BC (Period IV), only with a higher ratio of stamped amphoras. The peak comes, as expected, between c. 190-181 BC (Period III, with 16.92%).

At Tomis, the peak in imports comes between c. 180-171 BC (also in Period III, with 29.03%), but the interval between c. 190-141 shows constantly high values.

In all three cities, we see very small values (if any) in the decade c. 130-121 BC, indicating a general crisis as regards the Rhodian imports in the area.

The evidence of Rhodian imports in the West-Pontic gives the only available data for the 2nd century BC, when the other major exporters (Thasos, Sinope, Herakleia Pontike) were absent or no longer had any stamped amphoras. Other stamped amphoras came from Chersonesos, Kos and Knidos, but their volume was not very significant.

As I have used the same time intervals for examining the import dynamics of the three major exporters in the West-Pontic area, we can now follow the chronological distribution of these imports in one city (Figs. 7-9).

ISTROS

The graph of distribution by decades of the imports to Istros covers the interval between c. 390-71 BC, i.e. c. 320 years (Fig. 7).

The distribution lines of the imports from the three cities point to certain time delays between them, with Thasos being the earliest and Rhodos the latest. Nevertheless, there are some periods when the imports were present simultaneously on the Istrian market: Thasos and Sinope from the middle of

Period	Thasos	Sinope	Rhodos
390-381	2.59		
380-371	1.48		
370-361	1.36		
360-351	5.06		
350-341	11.48	0.86	
340-331	9.63	4.33	
330-321	13.21	0.17	
320-311	20.37	0.17	
310-301	3.46	0.52	
300-291	4.81	1.56	
290-281	7.78	4.5	
280-271	10.25	9.86	1.02
270-261	2.84	23.53	1.54
260-251	3.95	14.36	4.1
250-241	1.48	19.9	4.62
240-231	0.25	6.75	3.08
230-221		4.33	1.54
220-211		6.57	10.26
210-201		0.86	4.62
200-190		1.73	4.62
190-181			16.92
180-171			4.62
170-161			6.66
160-151			10.26
150-141			8.2
140-131			4.1
130-121			0.51
120-111			5.64
110-101			4.62
100-91			2.05
90-81			0.51
80-71			0.51
	54.69	74.4	66.16

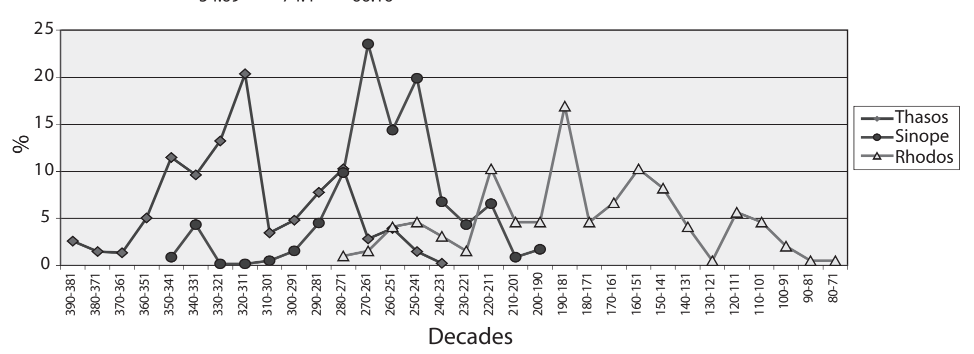


Fig. 7. Istros. The relative frequencies of the eponyms from Thasos, Sinope and Rhodos, by decades.

the 4th to the third quarter of the 3rd century, Sinope and Rhodos between c. 280 and c. 190 BC. All three centres were only exporting simultaneously between c. 280-240 BC or a little later.

The trade dynamics of imports coming from the three export centres have no points of coincidence. The peaks of the imports occur at different times: c. 320-310 for Thasos, c. 270-261 for Sinope and c. 190-181 for Rhodes. It looks as if Sinope replaced Thasos, and Rhodos replaced Sinope on the market. Those replacements took place though in a certain span of time. The four or five decades from c. 280 BC to after 240 BC indicate a period of prosperity for Istros. Similar periods are attested in the second half of the 4th century and possibly during the first half of the 2nd century BC. Those indicators still need to be supported by other evidence.

TOMIS

The graph of distribution by decades for the imports to Tomis covers the interval between c. 360-101 BC, i.e. c. 260 years (Fig. 8).

At Tomis, the periods of imports from the three centres are better delimited. Thasos and Sinope are simultaneously present from the middle of the 4th to the third quarter of the 3rd century, Sinope and Rhodos between c. 270 and c. 200 BC. All three cities were present only between c. 270-240 BC or a little later. When Thasos was present in great quantities, the Sinopean imports were very low, the converse also being true. When Sinope reached its peak, the Rhodian imports were very weak and the Thasian amphoras very few.

We distinguish three periods of relative prosperity: c. 340-311 BC (with 63.22% of the Thasian imports), c. 280-231 BC (79% of the Sinopean imports) and c. 190-141 BC (with 76.34% of the Rhodian imports).

If we look at the absolute number of stamps from every centre, they are many fewer in number at Tomis: we can therefore consider this city as being less important than the other two.

KALLATIS

Here, the situation regarding imports looks completely different. The graph of distribution by decades covers the interval c. 350-101 BC, i.e. c. 250 years (Fig. 9). During half a century, c. 290-241 BC, 76.7% of the Thasian imports are present, with the peak in the interval c. 260-251 BC (23.69%). We notice the same peak for Rhodos, with similar value (22.33%), and 39.8% of all imports over 3 decades (c. 270-241 BC). The Sinopean imports are very high in the same 3 decades, with 76.9% of the total and the peak between c. 270-260 BC. All other decades register less than 10% each, most of them less than 5%, although the imports are constant. In about 250 years, Kallatis knew only 5 decades of prosperity.

If we compare the dynamics of the imports at Istros, Tomis and Kallatis, we see they are different from one another, reflecting different economic histories.

Period	Thasos	Sinope	Rhodos
390-381			
380-371			
370-361			
360-351	2.3		
350-341	3.45	0.84	
340-331	19.54	3.36	
330-321	4.6	3.36	
320-311	39.08	0.84	
310-301	4.6	0	
300-291	1.15	0	
290-281	6.9	5.88	
280-271	4.59	9.24	
270-261	4.59	15.97	1.07
260-251	3.45	12.61	1.07
250-241	4.6	34.45	1.07
240-231	1.15	6.72	3.23
230-221		0.84	0
220-211		5.04	1.08
210-201		0.84	2.15
200-190			4.3
190-181			10.75
180-171			29.03
170-161			12.9
160-151			11.83
150-141			11.83
140-131			5.38
130-121			0
120-111			3.23
110-101			1.07
	63.22	78.99	76.34

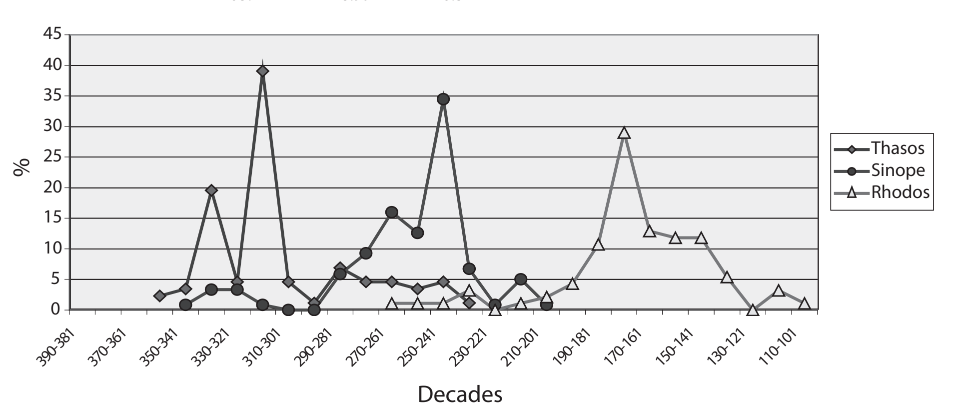


Fig. 8. Tomis. The relative frequencies of the amphora eponyms from Thasos, Sinope and Rhodos.

Istros looks more stable from the middle of the 4th to the middle of the 2nd century BC. At Tomis, the periods of prosperity are separated by periods of crisis in the main amphora imports. Kallatis had a single period of prosperity, which probably started after Lysimachos' death and ended after the defeat in the war against Byzantion for the control over the *emporion* of Tomis.[39]

Period	Thasos %	Sinope %	Rhodos %
350-341	2.61	0.51	
340-331	1.41	0.13	
330-321	1.41	0.13	
320-311	4.62	0.26	
310-301	4.62	0.38	
300-291	7.23	1.15	
290-281	10.24	3.06	
280-271	16.66	12.63	3.88
270-261	12.65	49.23	13.59
260-251	23.69	15.05	22.33
250-241	13.45	9.18	1.94
240-231	1.41	3.06	2.91
230-221		1.66	6.8
220-211		2.42	3.88
210-201		0.77	3.88
200-190		0.38	2.91
190-181			7.77
180-171			5.83
170-161			4.85
160-151			3.88
150-141			8.74
140-131			3.88
130-121			0.97
120-111			0.97
110-101			0.97
	76.69	76.91	39.8

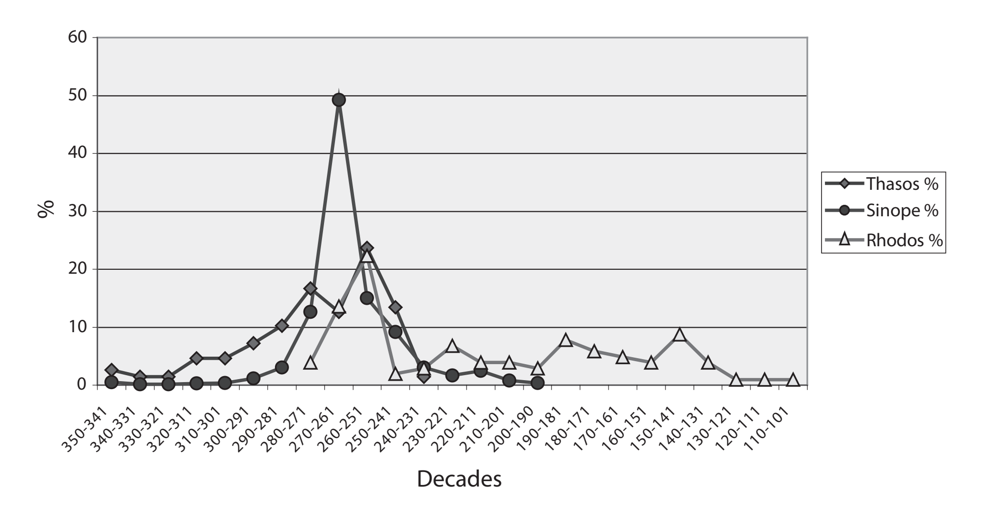


Fig. 9. Kallatis. The relative frequencies of the eponyms from Thasos, Sinope and Rhodos, by decades.

Period	Istros % (810)	Tomis % (87)	Kallatis % (498)	Odessos % (87)
390-381	2.59	0	0	4.6
380-371	1.48	0	0	3.45
370-361	1.36	0	0	0
360-351	5.06	2.3	0	13.8
350-341	11.48	3.45	2.61	2.3
340-331	9.63	19.54	1.41	0
330-321	13.21	4.6	1.41	3.45
320-311	20.37	39.08	4.62	9.19
310-301	3.46	4.6	4.62	16.09
300-291	4.81	1.15	7.23	21.84
290-281	7.78	6.9	10.24	12.64
280-271	10.25	4.59	16.66	2.3
270-261	2.84	4.59	12.65	3.45
260-251	3.95	3.45	23.69	1.15
250-241	1.48	4.6	13.45	5.75
240-231	0.25	1.15	1.41	0
	100	100	100	100.01

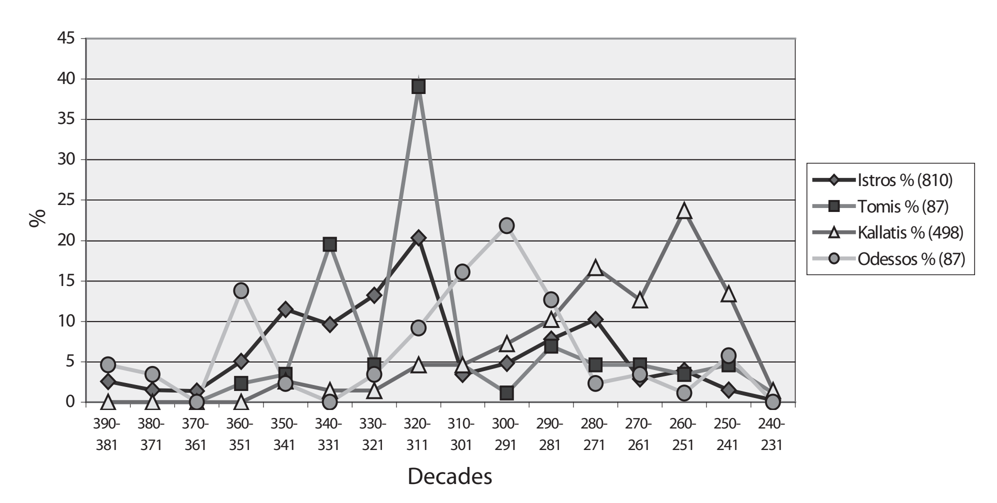


Fig. 10. The relative frequencies of the Thasian eponyms at Istros, Tomis, Kallatis and Odessos, by decades.

As I said at the beginning of this paper, our information on the amphora imports in the Greek cities of the Black Sea area is far for complete. Nor have we all the published material in our files. Therefore we cannot present the statistics for every city. In some cases however, we are able to show the relative frequency of a particular import in a particular city, in comparison with those from Istros, Tomis and Kallatis.

From the available data presented by Avram,[40] we can see the distribution of the Thasian eponyms at Odessos (Fig. 10). The number of stamps consid-

Period	Istros % (578)	Kallatis % (784)	Olbia % (272)	Pantikapaion % (1429)
350-341	0.86	0.51	3.31	4.62
340-331	4.33	0.13	7.72	4.76
330-321	0.17	0.13	3.68	3.5
320-311	0.17	0.26	2.57	2.38
310-301	0.52	0.38	4.04	5.39
300-291	1.56	1.15	2.57	8.68
290-281	4.5	3.06	11.76	18.26
280-271	9.86	12.63	11.03	16.79
270-261	23.53	49.23	4.78	5.95
260-251	14.36	15.05	4.78	4.06
250-241	19.9	9.18	9.56	7
240-231	6.75	3.06	7.72	6.3
230-221	4.33	1.66	10.29	4.83
220-211	6.57	2.42	8.46	3.64
210-201	0.86	0.77	4.04	1.75
200-190	1.73	0.38	3.68	2.09
	100	100	99.99	100

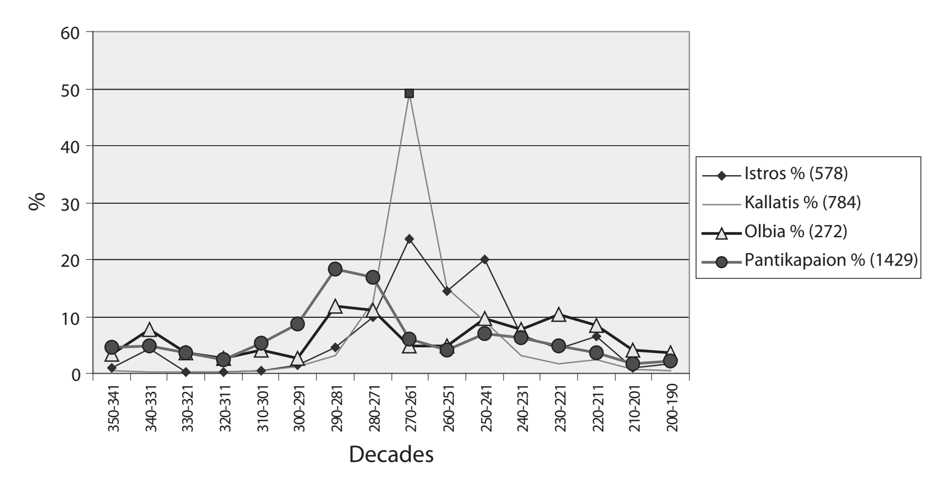


Fig. 11. The relative frequencies of the Sinopean astynoms at Istros, Kallatis, Olbia and Pantikapaion, by decades.

ered is equal to that from Tomis (87). Again the distribution line shows different dynamics.

The Sinopean stamps published from Odessos and Bizone are very few (48 and 36 items).[41] Instead, the published stamps from Pantikapaion and Olbia are in greater number, although far from the real figures. I present here the distribution graph of the Sinopean *astynomoi* for those cities together with the figures from Istros and Kallatis (Fig. 11). The peak in imports is again different, preceding by a decade that in the West Pontic cities.

Period	Istros %	Kallatis %	Pantikapaion %
290-281	0	0	0.9
280-271	1.02	3.88	0.45
270-261	1.54	13.59	1.81
260-251	4.1	22.33	1.81
250-241	4.62	1.94	1.81
240-231	2.56	2.91	1.81
230-221	6.67	6.8	3.17
220-211	6.67	3.88	3.62
210-201	4.1	3.88	3.17
200-191	4.1	2.91	5.43
190-181	16.92	7.77	11.76
180-171	4.62	5.83	13.12
170-161	6.66	4.85	11.76
160-151	10.26	3.88	8.6
150-141	8.21	8.74	8.6
140-131	3.59	3.88	7.69
130-121	1.03	0.97	4.52
120-111	5.64	0.97	3.17
110-101	4.62	0.97	2.26
100-91	2.05	0	2.26
90-81	0.51	0	0.45
80-71	0.51	0	0.9
70-61	0	0	0
60-51	0	0	0.9
50-41	0	0	0
	100	99.98	99.97

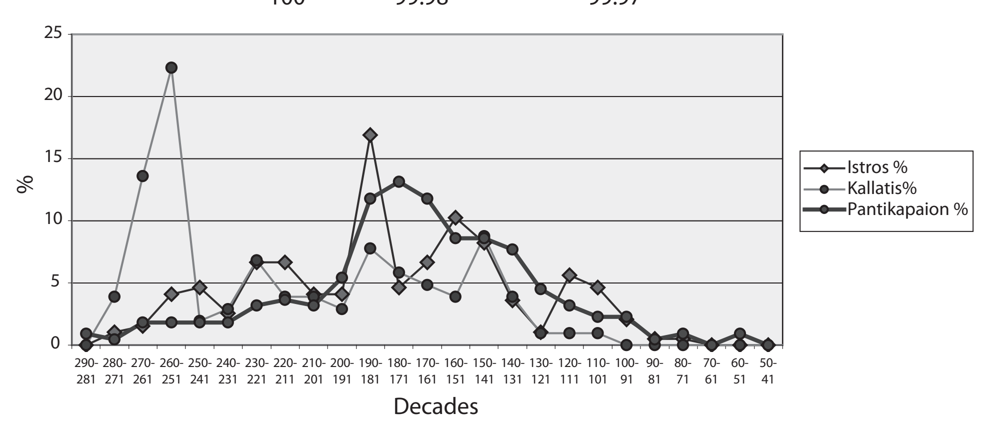


Fig. 12. The relative frequencies of the Rhodian eponyms at Istros, Kallatis and Pantikapaion, by decades.

As for the Rhodian imports at Pantikapaion,[42] the distribution line (Fig. 12) shows a more regular trade, most intensive from Period III to the middle of Period V, with a peak about 180-170 BC.

CONCLUSIONS

From this analysis we can draw several conclusions.

1) The extant chronologies of the amphora stamps from Thasos, Sinope and Rhodos seem to be close to reality, as shown by some coincidences in the peaks reached by the imports in the West Pontic cities, particularly at Kallatis. We must remember though that these coincidences are reliable only for the longer intervals, down to decades. They have no relevance for the year to year sequence of the amphora eponyms.
2) The dynamics of the import of transport amphoras from one or several export centres is different in every Greek city, no matter how close it is to another geographically. This may give indications of the nature of this kind of trade: directed to a specific commercial partner rather than a cabotage trade.[43]
3) The general picture of the dynamics of trade in transport amphoras needs to be completed by the other amphoras and amphora stamps discovered in every city. For the history of trade, all imports should be studied, including the coins and other kind of evidence (epigraphical, literary, etc.), in export and import cities as well.

Notes

1 Grace 1952; 1953; 1963; 1974; 1985; Grace & Savvatianou-Petropoulakou 1970.
2 Garlan 1966; 1979; 1982; 1985; 1986; 1990a; 1990b; 1993; 1999a; 1999b; 2000; Garlan & Doulgeri-Intzessiloglu 1990; Garlan & Tatlican 1997; 1998.
3 Debidour 1979; 1986; 1992.
4 Grandjean 1992.
5 Kac 1985; 1994; 1997a.
6 Monachov 1989a; 1989b; 1990; 1993; 1996; 1997.
7 Empereur 1989; 1990; Empereur & Garlan 1992; Empereur & Hesnard 1987; Empereur & Picon 1986; 1987; Empereur & Tuna 1988; 1989.
8 Doğer 1994; 1996; Doğer, Tuna & Gezgin 1994; Doğer 1994; Doger, Tuna & Gezgin 1994.
9 Finkielsztejn 1995; 1998a; 1998b; 1999; 2000b; 2001; 2002.
10 Fedoseev 1992; 1993a; 1993b; 1994; 1999.
11 Conovici 1989; 1997; 1998; 1999.
12 Monachov 1999a.
13 Empereur 1982.
14 We compare only the relative number of amphora stamps from every export centre in time (i.e. percentages), without any relation to the real amount of merchandise imported, for the reasons mentioned above. What we obtain are thus only "vectors" pointing to certain tendencies in the import of the specific wares.
15 Avram 1996.
16 Conovici 1998.

17 The study and the catalogue of all the Rhodian stamps from Istros are to be published by the author. Until then, the available publications are Canarache 1957 and Coja 1986. For Kallatis, the Rhodian amphora stamps are scattered in c. 20 publications and other are still unpublished.
18 Baumann 1975; Canarache 1957; Lungu 1992; 1995.
19 Teodorescu 1918; Gramatopol & Poenaru Bordea 1968; Buzoianu 1980; 1981; 1982; 1984; 1991; 1992.
20 Škorpil 1934; Mărculescu 1934; 1935; Mirčev 1958; Mirčev, Tončeva & Dimitrov 1962; Lazarov 1973; 1975; Štal' 1991.
21 Mirčev 1958; Lazarov 1973.
22 Mirčev 1958; Lazarov 1973; 1980.
23 Lazarov 1973; 1975; 1978 (*non vidi*).
24 Avram 1999b with previous bibliography.
25 Oberländer-Târnoveanu & Oberländer-Târnoveanu 1980; Lungu 1991; Lungu, Mănucu Adameşteanu 1995.
26 Gramatopol & Poenaru Bordea 1969; Irimia 1973; Bărbulescu, Buzoianu & Cheluță-Georgescu 1986; 1987; 1990; 2001; Rădulescu, Bărbulescu & Buzoianu 1986; 1987; 1990; Rădulescu, Bărbulescu, Buzoianu & Georgescu 1989; 1993.
27 Baumann 1975; Lungu 1990; Opaiț 1991; Simion 1995.
28 Irimia & Conovici 1989; 1990; Conovici & Irimia 1991.
29 Avram 1996.
30 In the Archaic period, the *emporion* of Tomis, a Milesian foundation, was included in the Istrian *chora*. The evidence of all the amphora imports shows great similarities between both cities.
31 Conovici 1988. In the order of the officials I have only modified the positions of Iobakchos Molpagorou from sub-group Vb to the end of sub-group Vc, and of Delphis Artemidorou from sub-group Ve to sub-group Vd, according to the new evidence from Satu Nou – Valea lui Voicu. Other changes in the list are expected from Y. Garlan's book about the Sinopean amphora stamps from Sinope (under way).
32 Conovici 1988, 51. The last period will have necessarily a year more.
33 The next three years have also high values (104 stamps).
34 The period between c. 272-258 BC covers 30.27% of the total imports.
35 Finkielsztejn 2001.
36 A slightly different order of the eponyms from the Period V and the beginning of Period VI is to be found in Palaczyk 2001, where the intercalary months are also considered.
37 The abbreviated names Tima( ) and Timar( ) (sub-period Ia) could be the names of Timasitheos and Timarchos (Ib), dated by myself to immediately after Lysandros and not to the end of the series; Timo( ) and Timokrates I (Ia) I consider a single person; in the sub-period IIa, I consider Philondas and Philonidas as two names, one at the beginning and other at the end of the series; the group Nikon – Daimon – Aristeios – Philokrates is to be dated at the end of the Ic series or the very beginning of IIa; Polykrates and Philonidas should precede the group of eponyms dated by the ivy-shape stamps of Epigonos I; Theuphanes II (IIc), Sostratos, Kleitomachos, Damothemis and Iasikrates (IIIa) are associated in the Tumulus B from Murighiol (Lungu 1990), therefore Damothemis and Iasikrates should precede Thestor who appears in the Tumulus A associated with later eponyms.

38 The *ratio* of the absolute number of Rhodian amphora stamps to the absolute number of Rhodian amphoras imported fluctuates considerably in the course of time. During Periods I and II the number of unstamped Rhodian amphoras was greater than in the later ones (except Period VII, when the number of stamped amphoras was even greater. It is thought that the inclusion of the months on the stamps starting with Period II was imposed by an important growth in amphora production.

39 Memnon, *FGrHist* III B, F 13(21), 347-348. Avram 1999b, 26-32, with the entire discussion.

40 Avram 1996, tab. X.

41 Conovici 1998, 181 (with slightly different figures).

42 For Pantikapaion, 221 stamps from the old bibliography are considered.

43 Garlan 1999b, 136-137, 139-140; Dupont 1999 for the Archaic period (especially 144-145).

Coins and Archaeology: the (Mis)use of Mithridatic Coins for Chronological Purposes in the Bosporan Area

François de Callataÿ

Coins in context tend to be the artefacts most in demand by field archaeologists (although, for the area and the period of time encompassed by this conference, amphora stamps, if extant, are usually better). Yet, they tend to make poor use of them. Obsessed with chronology, they abuse and neglect at the same time that type of material. Generally speaking for, Classical antiquity coins are indeed among the best dated documents we may find (possibly the best dated are the most commonly used) and these favourable circumstances give them a unique value.

Chronological measures can be very accurate with ancient coinages. Most of the Imperial Roman coins can be dated within a span of less than twelve months owing to the mention of certain imperial charges (how many times the Emperor was granted the *tribunicia potestas*, how many times he was *consul* or *pontifex maximus*, and so on).

For the Greek world, many Hellenistic coinages, both royal and civic, do indicate the year of a local era whose start is generally known. And there are a few cases, for which we are fortunate enough to know not only the year of production but also the month. It is appropriate here to sum up our information.

The most famous and widespread of these coinages are the Athenian "stephanophora", the so-called "New Style" coins.[1] On the reverse, the owl appears standing on an amphora on which we may distinguish one of the letters from *alpha* to *nu*, i.e. from 1 to 13 (the twelve regular months + a thirteenth one for the "embolistic" years of the Methonic cycle). This would be most convenient were it not for the fact that, as for the eponyms on amphora stamps, we can never be absolutely sure of the sequence of years since those are not numbered but given together with two names of what numismatists call, not without risk, "monetary magistrates". We thus have to reconstruct, through a minute study of die-links and hoards, the most likely sequence of issues. The same pattern occurs with some Rhodian imitations struck in Mylasa, a Carian mint, in late Hellenistic times.[2] This case is complicated by a number of factors but mainly by the lack of any epigraphic assistance since there is no proper name given in full on the reverse of those small silver denominations. Apart from interesting statistics about month frequencies,

there is no hope of determining in which year issues were struck. An additional case of the same nature has to be published by Ashton. It concerns the cistophoric coinage of Tralles.

The easiest cases are the ones which refer to a specific era. Three are known, all royal and located in Eastern Anatolia or Mesopotamia in the 1st century BC or the 1st century AD. Most famous is the coinage of Mithridates Eupator, called "the Great", King of Pontos (c. 120-63 BC).[3] In May 95 BC, he suddenly decided, immediately after a strike without any chronological references, to add on reverse dies the year and the month of the royal era which began in October 297 BC (ΒΣ−Θ). This is quite extraordinary and, to the best of my knowledge, there has been no attempt to explain "why then?" As months never appear on coins of smaller size, gold staters or silver drachms, we may presume that space has to play a role. But once applied to tetradrachms, this habit was pursued until the end of the Mithridatic issues (except for the very last one), with one conspicuous exception: the heavy strike made in 89 BC, presumably for the siege of Rhodos. It could be argued that silver tetradrachms of Mithridates Eupator are the most precisely dated coins of all ancient coinages, both Greek and Roman. They afford a unique opportunity to study the rhythm of striking, an opportunity I have tried to take advantage of in my *PhD*.[4] An opportunity greatly facilitated by the fact of the Mithridatic wars, which means that we know very well the historical sequence of events during those much troubled times.

This last comment does not apply to Parthian kings who used this device for a while. Indeed, except for the moments of real fighting against the Romans, we are not so well provided with documentation about the *fasti* of those reigns. Consequently we may know that tetradrachms were minted from June to September 37 BC but we are unable to explain why the strike stopped then and for what specific purpose that issue was minted.[5] At least, Parthian kings used to note months on their tetradrachms for centuries. It is even more difficult to understand why some drachms of Tigranes the Great (c. 95-c. 55 BC), struck at Artaxata between 61 and 58 BC, have letters on their reverse which seem to refer to months (from A to I, 1 to 10).

Leaving aside those exceptions, it is worth reiterating, again and again, that basic principle of numismatic expertise: if we are often able to date the time of coin production with remarkable accuracy (within a range of less than twenty years most of the time), that only gives us a *terminus post quem*. Coins are not as fragile as common or fine pottery. They tend to keep circulating for a very long time (see the statistics produced by S. Rotroff in this volume comparing deposits in which coins or amphoras were the "last datable objects"). The lifetime of circulation is itself rarely well defined. Moreover, the presence of one coin in an archaeological layer does not mean that that particular type was actually in circulation at the time it was buried. In other words: the field archaeologist has to be careful not to give to coins naïve credence, to be too trusting of their potential chronological assistance.

At the same time, the archaeologist tends (or tended) to neglect the real amount of information coins can bring along for a true historical reconstruction of the past. Coin studies are too often pushed to the end of site monographs, as appendices written by external specialists without real links to the broader questions posed by the excavations. I have tried elsewhere to structure an historical interpretation in a grid of increasing complexity, which starts with most purely numismatic issues and ends with largely historical concerns. The first column gives for each historical issue the most useful (but not the only one) category of coin finds:

Categories of material	**Historical issues**
Site finds	– dating of the archaeological layers
	– occupation of the site (who? how long? etc.)
	– "trade" – "prosperity of the site"
Isolated finds	– localization of mints
	– trade and military roads
Hoards	– areas of circulation
	– length of circulation
	– speed of circulation (study of weights)
	– homogeneity of circulation (integrated economy or not)

This is more "ingénue" (as we say in French) than "ingenious". It may surely be refined but gives some idea of what could be achieved.

Without even mentioning the self-explanatory issues (with calendar inscriptions), numismatic chronologies are, to a great extent, built on a network of other chronologies (coinages, hoards, etc.), which implies, among other things, a serious risk of circular argumentation. And it is even worse when one needs to employ other kinds of material, since we all try to be very prudent and critical in our own field but are, as it happens, more inclined to uncritically accept the advice of recognized specialists from other fields.

The case examined here is an example of how a change of pattern has in some way contributed to changing ideas elsewhere. This is the story of how a change produces another change which will in turn produce a third one.

The bronze Mithridatic coins have been studied and dated by the Swiss numismatist Friedrich Imhoof-Blumer in a paper published in 1912.[6] A major improvement at that time, due to one of the most illustrious numismatists of his time, this article has never really been challenged since then. Much more material is now available, some hoards have been scientifically published, archaeological contexts have been made known and emphasized. It turns out that, with this increase of material and by using the tools of modern numis-

matics, the sequence and dates of Imhoof-Blumer are no longer valid as such. Some major revision has to be made. And this has an impact on the chronology of Bosporan coinages and Bosporan archaeological excavations as well. Since many "Pontic", i.e. Mithridatic coins have been found on the northern shores of the Black Sea (not alone in the Bosporan kingdom) and since many Bosporan bronze coins have been overstruck on Mithridatic bronzes, those Mithridatic bronzes were used by Russian scholars and others as the key-material in order to establish chronologies for the contemporary Bosporan coinages and, directly or indirectly, for the Bosporan excavations. All those are thus in need of some revision. Actually, I dealt with Mithridatic bronzes (being in Athens in 1985) in my *PhD* entitled: "Economical and social history of the Mithridatic wars" but refrained from including this chapter in the published version since, as frequently occurs, it looked to me from the very beginning easy to criticize Imhoof-Blumer but much more difficult to rebuild another model which could be plainly satisfying. What I shall bring along here is – I fear (and I beg you for mercy for that) – an unsympathetic demolition enterprise which is probably more convincing in its criticisms against Imhoof's sequence than in its new chronological proposals.

The Pontic Cappadocia, as it was called in Persian times or, more precisely, the Kingdom of Mithridates Eupator Pontos failed to use coinage for a very long time. Not a single bronze coin can be attributed safely to this area prior to the last quarter of the 2nd century BC. Until then, only three mints were active, albeit on very different scales: Sinope, Amisos and Trapezous. The vast majority of the coins they struck were heavy silver ones, thus very awkward to daily transactions. Then, all of a sudden, at the end of the 2nd century BC and the first decades of the 1st century BC, which is likely to have been entirely located within the reign of Eupator, no less than thirteen different mints seem to have been active in the strike of many common types. Due to the recent discovery of many of these hoards, these coinages are today very common in public and private collections. A few tens of thousands are likely to exist all over the world.

Their sequence and chronology rest on an article published in 1912 by Friedrich Imhoof-Blumer, whose huge authority seems to have discouraged anyone for re-examining the case. It comes as no surprise that the two specific volumes of the *Sylloge Nummorum Graecorum* recently devoted to the Black Sea coinages adopt, *sine varietur*, Imhoof-Blumer's sequence (*SNG British Museum – Black Sea* and *SNG Stancomb*). True, the sequence of Imhoof made a considerable progress compared to the former sequences which I only recall here for a thorough understanding of the problem:

Table 1

Sequence of *BMC* (Wroth 1889)
Zeus/Eagle (c. 19.80g) – 22
Zeus/Eagle (c. 7.50g) – 23-29
Athena/Perseus (c. 19.00g) – 30-36
Artemis/Tripod – 37-38
Eros/Bowcase (c. 3.90g) – 39
Ares/Sword (c. 7.80g) – 40-50
Dionysos/Cista (c. 8.10g) – 51-56
Dionysos/Thyrsos (c. 3.60g) – 57-58
Panther/Cista (c. 4.00g) – 59
Perseus/Pegasos (c. 12.80g) – 60-64
Perseus/Pilei (c. 4.10g) – 65-67
Perseus/Harpa (c. 2.70g) – 68
Aegis/Nike (c. 7.60g) – 69-78
Wolf/Nike (c. 8.40g) – 79
Young man/Bowcase (c. 20.60g) – 80-82

Table 2

Sequence of *RG* (Babelon et al. 1904)
Young man/Bowcase (c. 20.60g) – 13
Zeus/Eagle (c. 19.80g) – 14
Zeus/Eagle (c. 7.50g) – 15-16
Athena/Perseus (c. 19.00g) – 17-18
Artemis/Tripod (c. 7.70g) – 19
Artemis/Stag (c. 1.80g) – 20
Apollon/Hippocamp (?) – 21
Apollon/Tripod (c. 2.70g) – 22
Herakles/Club (c. 4.40g) – 23
Dionysos/Cista – 24
Dionysos/Thyrsos (c. 3.60g) – 25-26
Panther/Cista (c. 4.00g) – 27-28
Ares/Sword (c. 7.80g) – 29-31
Perseus/Pegasos (c. 12.80g) – 32-34
Perseus/Harpa (c. 2.70g) – 35
Perseus/Pilei (c. 4.10g) – 36
Eros/Bowcase (c. 3.90g) – 37
Wolf/Nike (c. 8.40g) – 38
Wolf/Herakles (?) – 39
Herakles/Club (c. 1.50g) – 40
Tyche/Owl (c. 7.50g) – 41
Aegis/Nike (c. 7.60g) – 42-44

Both sequences appear to have been established on a purely iconographical basis: they deal first with the Olympian gods (Zeus, Athena, Artemis) and bring together divinities and their symbols (thus the type "Panther/Cista" follows the two representations of Dionysos).

Then came Friedrich Imhoof-Blumer who divided all these bronze issues (22 types all in all) into seven groups and five different periods of time. The thirteen mints, which appear in bold characters on the first line in abbreviated forms, are Amaseia, Amisos, Kabira, Chabakta, Komana, Gazioura, Laodikeia, Pharnakia, Taulara, Amastris, Pimolisa, Sinope and Dia. The order is first geographical (Pontos – Paphlagonia – Bithynia) and then alphabetical (Amaseia, Amisos, etc. [with the exception of Chabakta]). To the types of Imhoof-Blumer, marked with a cross (X), I have added all those which, while unknown to him, appear in my database (O). The average weight, given in brackets, is an approximation provided only to give an idea of the denominations. The numbers which follow the weights are those of the varieties given by F. Imhoof-Blumer in his catalogue. Descriptions of types are minimal and therefore sometimes exaggeratedly reduced.

Table 3. *Sequence of Imhoof-Blumer (1912)*

	Ama	Ami	Kab	Cha	Kom	Gaz	Lao	Pha	Tau	Amas	Pim	Sin	Dia
Group I (c. 120-111 BC)													
Perseus/Pilei (c. 4.10g) 1-3	x	x	-	-	-	-	-	-	-	-	-	x	
Apollon/Tripod (c. 2.70g) 4	o	x	-	-	-	-	-	-	-	-	-	o	-
Artemis/Stag (c. 1.80g) 5	o	x	-	-	-	-	-	-	-	-	-	-	-
Group II (c. 120-111 BC)													
Young man/Bowcase (c. 20.60g) 6-9	-	x	o	o	-	-	o	o	o	-	-	x	-
Artemis/Tripod (c. 7.70g) 10-12	-	x	-	-	-	-	-	-	-	-	-	o	-
Eros/Bowcase (c. 3.90g) 13-14	-	x	-	-	-	-	-	-	-	-	-	x	-
Group III (c. 111-105 BC)													
Zeus/Eagle (c. 19.80g) 15-23	x	x	x	o	o	x	o	-	x	-	x	x	
Ares/Sword (c. 7.80g) 24-34	x	x	x	o	-	x	x	o	x	x	x	x	-
Group IV (c. 105-90 BC)													
Athena/Perseus (c. 19.00g) 35-39	-	x	x	o	x	o	o	o	o	x	-	x	o

Aegis/Nike (c. 7.60g) 40-46	-	x	x	x	x	-	x	-	-	x	-	x	
Ares/Sword IB (c. 7.80g) 47-48	-	x	-	x	-	-	-	-	-	-	-	-	
Dionysos/Thyrsos (c. 3.60g) 49-53	-	x	x	o	x	-	x	-	-	o	-	x	-
Perseus/Harpa (c. 2.70g) 54-56	-	x	o	-	-	-	x	-	-	-	-	x	-
Group V (c. 90-80 BC)													
Dionysos/Cista (c. 8.10g) 57-60	-	x	-	-	-	-	-	-	-	-	-	-	
Panther/Cista (c. 4.00g) 61	-	x	-	-	-	-	-	-	-	-	-	-	-
												x	
Group VI (c. 80-70 BC)													
Perseus/Pegasos (c. 12.80g) 62-64	-	x	o	x	o	-	o	o	o	-	-	-	-
Wolf/Nike (c. 8.40g) 65-67	-	x	-	-	-	-	-	-	-	-	-	x	
Herakles/Club (c. 4.40g) 68	-	x	-	-	-	-	-	-	-	-	-	-	o
Herakles/Club (c. 1.50g) -	-	o	-	-	-	-	-	-	-	-	-	-	-
Wolf/Herakles (?) 69	-	x	-	-	-	-	-	-	-	-	-	-	-
Group VII (c. 80-70 BC)													
Zeus/Eagle (c. 7.50g) 70-78	x	x	o	-	-	-	-	x	-	x	-	x	
												x	

What is remarkable is the increase of material. Out of the 94 different types which are documented today, 31 were unknown to Imhoof ("O"), compared with the 63 available to him ("X"). This is a good example of how much our numismatic documentation has grown in less than one century.

The main argument of Imhoof in support of classifying these different types are the secondary marks, what some numismatists used (wrongly it seems) to call "marks of monetary magistrates". Bronze coin types without any secondary marks have been classified first, leaving till the end the highest number of monograms and/or symbols (up to four).

I have discussed elsewhere at length why this sequence, no matter how ingenious it is, must be criticized.[7]

Central here are overstrikes, both for Pontic as for Bosporan bronze issues, hoards and excavation material. In the paper I gave in Bordeaux in 2002, you will find appendices for each of these matters. However, it seems worth mentioning here some of the evidence. Let us begin with the Piraeus hoard, of paramount importance in establishing the chronology of Mithridatic bronzes, and then the Bosporan hoards for which we may know type details of Mithridatic coins.

Table 4. *Hoards with Mithridatic bronzes.*

CH III 73, 1973, Piraeus – see Oekonomides-Caramessini 1976 – 8 Mithridatic bronzes

	Ama	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Aegis/Nike (c. 7.60g)	-	8	-	-	-	-	-	-	-	-	-	-	-

Rem.: This deposit proves that Type "Aegis/Nike" was struck prior to 86 BC, the date of the Sack of Athens and of the destruction of the house where it was found.

IGCH 1141, 1937, Myrmekion (Kerch) – 6 Mithridatic bronzes in a grave

	Ama	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Dionysos/ Cista (c. 8.10g)	-	6	-	-	-	-	-	-	-	-	-	-	-

IGCH 1144, 1897, Kerch – 66 Mithridatic bronzes

	Ama	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Perseus/Pegasos (c. 12.80g)	-	2	-	-	-	-	-	-	-	-	-	-	-
Ares/Sword (c. 7.80g)	-	32	-	-	-	-	-	-	-	1	-	2	-
Aegis/Nike (c. 7.60g)	-	28	-	-	1	-	-	-	-	-	-	-	-
Total	-	62	-	-	1	-	-	-	-	1	-	2	-

Poljanka 1984 (Frolova & Ireland 1999) – 9 Mithridatic bronzes out of 66 coins

	Ama	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Ares/Sword (c. 7.80g) 2 ex.	-	-	-	-	-	-	-	-	-	-	-	-	-
Zeus/Eagle (c. 19.80g)	-	1	-	-	-	-	-	-	-	-	-	5	-
Aegis/Nike (c. 7.60g)	-	-	-	-	-	-	-	-	-	1	-	-	-
Total	-	1	-	-	-	-	-	-	-	1	-	5	-

Rem.: Other types are "Apollon/Eagle" from Pantikapaion (28 ex.), "Nike/Prow" of Asander (22 ex.), "Dionysos/Bowcase" (4 ex. = "Bosporan anonymous"), "Dionysos/Tripod and thyrsos" from Pantikapaion (1 ex.) and Gorgippia (1 ex.) and "Artemis/Eagle" from Chersonesos (1 ex.).

Poljanka 1985 (Frolova & Ireland 1999) – 15 Mithridatic bronzes out of 1,140 coins

	Ama	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Zeus/Eagle (c. 19.80g)	-	1	-	-	-	-	-	-	-	-	-	-	-
Athena/Perseus (c. 19.00g)	-	10	-	-	-	-	-	-	-	2	-	2	-
Total	-	11	-	-	-	-	-	-	-	2	-	2	-

Rem.: Other types are "Dionysos/Bowcase" (150 ex. = "Bosporan anonymous"), "Apollon/Eagle" from Pantikapaion (908 ex. most of them overstruck on "Dionysos/Bowcase"), "Men/Dionysos" from Pantikapaion (3 ex.) and Gorgippia (1 ex.).

Kumatyr' 1976 – near Anapa (Abramzon et al. 2002) – 5 Mithridatic bronzes out of 177 coins

	Ama	**Ama**	**Ami**	**Kab**	**Cha**	**Kom**	**Gaz**	**Lao**	**Pha**	**Tau**	**Amas**	**Pim**	**Sin**	**Dia**
Perseus/Pilei (c. 4.10g)		1	-	-	-	-	-	-	-	-	-	-	-	-
Ares/Sword (c. 7.80g)		-	3	-	-	-	-	-	-	1	-	-	-	-
Total		1	3	-	-	-	-	-	-	1	-	-	-	-

Rem.: Of all known hoards with Mithridatic bronzes, this one looks the oldest. Only hoard evidence for the type "Perseus/Pilei", this deposit links some Mithridatic bronzes of heavy denomination ("Ares/Sword") to a great number of light bronzes struck in Pantikapaion during the 2nd century BC.

It looks altogether worthwhile to draw the attention of the specialists of the northern Black Sea area to the presence of Pontic coins in Aegean excavations.

Table 5. *Pontic coins found in some Aegean archaeological excavations.*

Ilion (Bellinger 1961, 170)
no. 200: Aegis/Nike (Amisos – 12h, 20 mm).

Rem.: No. 199, a bronze attributed to Dia (Head of Dionysos r./ΔΙΟΝΥ−ΣΙΟΥ. Ear of wheat in an ivy crown) is wrongly linked to Mithridatic times.

Pergamon (Voegtli 1993, 37)
no. 458: Artemis/Tripod (Sinope – 22 mm – Inv. 1978/441 [no detail on the archaeological context]).

Delos (Hackens 1969, 395 and 399)
no. F411: Head of Poseidon r./Prow l. (Pantikapaion – 12h – Inv. 63-C-151).
no. F412: Head of Pan r./Cornucopia between two pilei (Pantikapaion – 12h – Inv. 62-C-92).
no. F413: Head of Pan r./ Cornucopia between two pilei (Pantikapaion – 12h – Inv. 62-C-126).
no. F452: Ares/Sword (Amisos – 12h – Inv. 63-C-140).
no. F453: Aegis/Nike (Amisos – 12h – Inv. 62-C-170).
no. F455: Aegis/Nike (Amastris – 12h – Inv. 62-C-6).

Rem.: Total lack of Athenian bronze coins with Mithridatic types (star and two crescents).

Athens (Kroll 1993, 255)
no. 852: Head of Artemis r./Stag l. (Phanagoria – [broken], 12h, 21 mm – Inv. Σ-3566a).
no. 854: Ares/Sword (Amisos – 5.72g, 12h, 18 mm – Inv. ΠΠ-877).
no. 855a: Dionysos/Cista (Amisos – 6.41g, 12h, 21 mm – Inv. ΠΘ-632).
no. 855b: Dionysos/Cista (Amisos – 5.65g+, 12h, 22 mm – Inv. K-552).

Coins found in Delos and Athens are particularly relevant to the present debate. Dealing with Mithridatic bronzes found in the Bosporos, the most astonishing fact is the superabundance of the type "Zeus/Eagle". Although, as Karyškovskij showed a long time ago (1965), the pattern could be different for Chersonesos and Olbia, Bosporan excavations have revealed a large number of that particular type, mostly struck in Sinope. I present here the details of some archaeological reports (with my most sincere thanks to Vladimir Stolba who was kind enough to send me a copy of those papers). These

reports are old and I am pretty sure that it could be possible to add much more evidence nowadays but, nonetheless, it is doubtful that this new evidence would affect the model:

Table 6. *Mithridatic bronzes found in Bosporan archaeological excavations.*

Tyritake 1935-1940 (Zograf 1952)

10-"Zeus/Eagle" (Pharnakia, 5.52g)
23-Light siglos of Amisos (3.20g)
29-"Zeus/Eagle" (Sinope, 5.00g)
54-"Ares/Sword" (Amisos [2?], 5.92g)
81-"Zeus/Eagle" (Sinope, 6.78g)
103-"Perseus/Pegasos" (10.88g)
125-"Ares/Sword" (Amisos, 5.53g)
153-"Aegis/Nike" (Amisos, 3.30g)
154-"Aegis/Nike" (Sinope, 2.76g)
2274-"Zeus/Eagle" (Sinope)
2286-"Dionysos/Cista" (Amisos)
2295-"Aegis/Nike" (Amisos, 7.11g)
2302-"Aegis/Nike" (Amisos, 4.20g)
2304-"Zeus/Eagle" (Amisos, 4.50g)

14 coins out of 310 (4.5%)

Tyritake 1946-1953 (Belova 1953)

50-"Zeus/Eagle" (Sinope, 6.13g)
84-"Zeus/Eagle" (Sinope, 5.75g)

2 coins out of 114 (1.8%)

Myrmekion 1935-1940 (Zograf 1952)

2435-"Ares/Sword" (Amisos, 5.40g)
2440-"Zeus/Eagle" (Sinope, 8.01g)
2459-"Perseus/Pegasos" (Amisos, 10.20g)
2467-"Zeus/Eagle" (Pharnakia, 5.35g)
2536-"Dionysos/Cista" (Amisos, 6.57g)
2552-"Dionysos/Cista" (Amisos, 6.57g)
2553-"Dionysos/Cista" (Amisos, 6.65g)
2554-"Dionysos/Cista" (Amisos, 5.55g)
2555-"Dionysos/Cista" (Amisos, 6.25g)
2556-"Dionysos/Cista" (Amisos, 5.20g)
2557-"Dionysos/Cista" (Amisos, 6.75g)

2576-"Zeus/Eagle" (Sinope)
2588-"Zeus/Eagle" (Amastris)

13 coins out of 299 coins (4.3%)

Myrmekion 1946-1953 (Belova 1953)

200-"Ares/Sword" (Amisos, 6.61g)
205-"Zeus/Eagle" (Sinope, 8.86g)
221-"Athena/Perseus" (Amisos, 14.91g)
222-"Zeus/Eagle" (Sinope, 6.40g)
223-"Zeus/Eagle" (Sinope, 4.70g)
246-"Zeus/Eagle" (Sinope, 4.93g)
247-"Zeus/Eagle" (Sinope, 5.75g)
248-"Zeus/Eagle" (Sinope, 5.84g)
250-"Zeus/Eagle" (Sinope, 7.40g)
266-"Ares/Sword" (Amisos, 4.28g)

10 coins out of 172 (5.8%)

Kepoi 1958-1963 (Frolova & Šelov 1965)

107-"Ares/Sword" (Sinope, 5.53g)
111-"Zeus/Eagle" (Sinope)
202-"Zeus/Eagle" (Sinope)
215-"Aegis/Nike" (Amisos)
261-"Zeus/Eagle" (Sinope, 6.75g)
262-"Dionysos/Cista" (Amisos, 7.53g)
291-"Aegis/Nike" (Amisos)
347-"Zeus/Eagle" (Sinope, 6.77g)
384-"Ares/Sword" (Amisos, 6.96g)

9 coins out of 384 (2.3%)

Grand total: 48 out of 1,299 (3.7%)

By the way, these meagre but meaningful statistics show to what extent Mithridatic bronzes appear in Bosporan excavations (nearly 4% of the total amount of recovered coins, most of them from Imperial Roman times). They can be paralleled with the numbers put forward by P.O. Karyškovskij:[8]

Table 7. *Types of Mithridatic bronzes found in the Bosporos.*

	Bosporos		
Pontic types	**Karyškovskij 1965**	**Table 6**	
Apollo/Tripod	1	-	
Perseus/Pegasos	4	2	
Dionysos/Cista	9	9	(6 for *IGCH* 1141 = Myrmekion 2552-7)
Zeus/Eagle (heavy)	2	-	
Ares/Sword	16	7	
Zeus/Eagle (light)	45	22	(18 Sinope, 2 Pharnakia, 1 Amastris and Amisos)
Athena/Perseus	2	1	
Aegis/Nike	17	6	
Total	**96**	**47**	

This strong agreement gives a special place to the type “Zeus/Eagle” of light standard (c. 46%). This is in stark contrasts to the usual representation of that type in the Pontic kingdom itself. With 37 specimens out of 1,133 Mithridatic bronzes, the type “Zeus/Eagle” only counts for 3.3% in the Amasya Museum recently published by Stanley Ireland. Similarly, in my database which mainly gathers material from public collections and sale catalogues, the type “Zeus/Eagle” is attested by 360 specimens out of a total of 2,404 Mithridatic bronzes (thus 15.0%).

Actually – and I refer once again to my paper given in Bordeaux – it seems that types “Zeus/Eagle” and “Ares/Sword” were struck at the same time by different mints. It looks like as if inland mints were in charge of producing the type “Ares/Sword”, whereas coastal mints (Amastris, Sinope, Pharnakia + Amisos) were asked to produce the type “Zeus/Eagle”. Anyway, it must be clear that – at a moment and for a reason we cannot determine – a massive influx of Sinopean “Zeus/Eagle” bronzes occurred in the Bosporos (and, despite the well-known economic role played by Sinope as witnessed by amphoras, it may be better to suspect here something linked to a Mithridatic garrison).

To be brief, the sequence of Imhoof-Blumer, although confirmed to a certain extent, has to be severely modified. Despite the existence of a unique variety with the letters ΓΚΣ (thus 223, i.e. the year 75/74 BC [two known specimens struck with the same pair of dies]), we may assume that no significant strike of Mithridatic bronzes ever occurred after the end of the first war (85 BC). This has major historical consequences for our understanding of Mithridates’ monetary policy, about which I shall say nothing here. Obviously, it compresses the sequence of issues into a possibly short period of time. Here

is the proposal I am tempted to defend and for which it is safer not to be too precise with chronological limits:

Table 8. *Proposed sequence of issues for Mithridatic bronzes.*

	Ama	Ami	Kab	Cha	Kom	Gaz	Lao	Pha	Tau	Amas	Pim	Sin	Dia	Tot
Artemis/Tripod (c. 7.70g)	-	31	-	-	-	-	-	-	-	-	-	12	-	43
Perseus/Pilei (c. 4.10g)	30	60	-	-	-	-	-	-	-	-	-	27	-	117
Eros/Bowcase (c. 3.90g)	-	19	-	-	-	-	-	-	-	-	-	5	-	24
Apollon/Tripod (c. 2.70g)	1	15	-	-	-	-	-	-	-	-	-	3	-	19
Young boy/Bowcase (c. 20.13g)	-	36	1	1	-	-	1	1	1	-	-	5	-	46
Perseus/Pegasos (c. 12.17g)	-	99	1	13	1	-	1	1	1	-	-	-	-	117
Dionysos/Cista (c. 8.19g)	-	223	-	-	-	-	-	-	-	-	-	-	4	227
Panther/Cista (c. 4.00g)	-	4	-	-	-	-	-	-	-	-	-	-	-	4
Zeus/Eagle (c. 19.52g)	15	38	5	1	1	15	2	-	12	-	15	14	-	118
Ares/Sword (c. 7.93g)	10	245	5	36	-	21	5	1	14	6	17	28	-	388
Zeus/Eagle (c. 7.90g)	3	137	1	-	-	-	-	84	-	26	-	70	39	360
Herakles/Club (c. 4.40g)	-	3	-	-	-	-	-	-	-	-	-	-	1	4
Herakles/Club (c. 1.50g)	-	3	-	-	-	-	-	-	-	-	-	-	-	3
Athena/Perseus (18.61g)	-	140	12	4	11	1	3	2	2	39	-	44	1	259
Aegis/Nike (7.32g)	-	311	35	26	43	-	8	-	-	61	-	71	-	555
Dionysos/Thyrsos (3.71g)	-	26	4	2	8	-	7	-	-	1	-	3	-	51
Perseus/Harpa (2.55g)	-	17	2	-	-	-	2	-	-	-	-	2	-	23

Now Imhoof-Blumer's sequence and chronology have been accepted by scholars as the crucial argument in the dating of Bosporan bronze issues, then silver issues and, finally, Bosporan archaeological contexts of those times. Let us remember that: 1) several monetary types of Bosporan bronzes have been massively overstruck, *inter alia* on Mithridatic bronzes; 2) as shown, many Mithridatic bronzes have been found in Bosporan excavations; 3) the very pattern of strikes among the Bosporan cities (Pantikapaion, Phanagoria and Gorgippia) looks similar to the one imposed by Eupator on the cities of his kingdom (community of types and even of monograms) and 4), speaking of monograms, some have been impressed by what appears to them as a too close a connection between Bosporan and Mithridatic monograms (chiefly for the Bosporan anonymous [type "Dionysos/Bowcase"] and the Mithridatic type "Dionysos/Cista").

Chronologies of Bosporan coinages struck at the end of the 2nd century and during the first half of the 1st century BC do not seem to be firmly established. Table 9 below follows up various recent proposals made by some authorities on the subject.[9]

The reasons, largely based on the study of the Mithridatic bronzes, which enable us to improve those chronologies have been explained elsewhere.[10] I shall restrict myself to giving again the table of results (Table 10), which is the suggested improved chronology.

Bosporan coinages under Mithridatic influence are the ones dated from 85 to 70 BC, that is, after the end of the first Mithridatic war (89-85 BC) and not the vague dates of "c. 100-75 BC" which – one suspects – have been proposed in order to cover the zenith of the Mithridatic power.

Traditional dates for those issues in the scholarly tradition are "90-80 BC". As far as I can see, these are the results of several misunderstandings of numismatic material. Taking for granted the chronology of Imhoof-Blumer, scholars observed that Mithridatic bronzes were numerous in the Bosporos for the periods "c. 105-90 BC" (which, according to Imhoof, includes type "Aegis/Nike", which is the commonest of all types struck by Pontic cities, as well as type "Ares/Sword") and "c. 80-70 BC"" (which, according to the same Imhoof, is the period of the type "Zeus/Eagle", over-represented in Bosporan excavations). Conversely, bronzes of Group V, dated "c. 90-80 BC" ("Dionysos/Cista") were much rarer. Then, creating some confusion between time of production and time of circulation, those scholars were inclined to date the group of Bosporan issues struck under Mithridatic influence to the years "90-80 BC", in accordance with the *horror vacui* principle. From these tricky assumptions, a theory was devised whose main lines were: Mithridates Eupator later interfered with monetary affairs of the Bosporos (c. 90 BC). His policy was initially a very favourable one for the Greek cities of Pantikapaion, Phanagoria and Gorgippia which kept their rights to strike coins (or better, were encouraged to strike coins) as a sign of their autonomy (this being the period "90-80 BC"). Then, around 80 BC, Eupator, whose power was now

increasingly challenged after his defeat by the Romans and the Treaty of Dardanos signed in 85 BC, decided to, or had to, be less liberal. He abolished the monetary rights of the Bosporan cities and imported a huge amount of coins of Sinope ("80-70 BC").

Table 9. *Recent proposals of chronologies for Bosporan coinages (End of the 2nd c.-First half of the 1st c. BC).*

Types	**Anochin 1986**	**Price 1993**	**Stancomb 2000**	**Frolova 2003**
Head of Poseidon r./Prow (AE – c. 18g)	109-100	-	E. 2nd c.-B. 1st c.	E. 2nd-B. 1st c.
Bust of Artemis r./Stag lying l. (AE – c. 7g)	109-100	E. 2nd-c. 50	E. 2nd c.	B. 1st c.
Artemis/Stag feeding r. (AR – drachm)	90-80	100-75	-	100-75
Dionysos/Crown (AR – didrachm)	90-80	100-75	100-75	100-75
Dionysos/ Stag running r. (AR – drachm)	100-90	100-75	-	100-75
Head of Men/Dionysos standing l. (AE – c. 17g)	90-80	100-75	100-75	100-75
Head of Apollon r./Tripod and thyrsos (AE – c. 8g)	90-80	100-75	100-75	100-75
Head of Dionysos r./Bowcase (AE – c. 18g)	80-70	c. 50	1st c. (1st half)	E. 2nd-63
Head of Dionysos r./Thyrsos (AR – c. 4g)	90-80	100-50	100-75	1st c. (2nd half)
Head of Dionysos r./Thyrsos (AR – c. 1.9g)	90-80	E. 2nd-B. 1st c.	-	1st c. (2nd half)
Head of Apollon r./Eagle on fulmen (AE – c. 15g)	70-63	100-75	c. 50	After 63
Bust of Nike/Prow (AE – c. 17g)	50/49-48/7	c. 50	49/8-45/4	c. 50
Bust of Nike/Prow (AE – c. 8g)	50/49-48/7	c. 50	49/8-45/4	c. 50
Head of Apollon-Asander r./ Pegasos feeding	47-37	c. 50	1st c. (2nd half)	-

Table 10. *Improved chronology for Bosporan coinages (c. 100-40 BC).*

End 2nd c. or beginning of the 1st c. BC	
Head of Dionysos/ Stag running r. (AR – drachm, c. 4g)	Pantikapaion, Gorgippia
c. 100-c. 88 BC?	
Head of Poseidon r./Prow (AE – c. 18g)	Pantikapaion
c. 95-c. 86 BC?	
Bust of Artemis r./Stag lying l. (AE – c. 7g)	Pantikapaion, Phanagoria
c. 90-80 BC?	
Head of Artemis r./Stag feeding r. (AR – drachm, c. 4 g)	Pantikapaion
c. 85-c. 70 BC?	
Head of Dionysos r./Crown and bunch of grapes (AR – didrachm, c. 8.5g)	Pantikapaion, Phanagoria, Gorgippia
Head of Dionysos r./Thyrsos (AR – Drachm, c. 4g)	Phanagoria
Head of Dionysos r./Thyrsos (AR – Hemidrachm, c. 1.9g)	Pantikapaion, Phanagoria
Head of Men r./Dionysos standing l. (AE – c. 17g)	Pantikapaion, Phanagoria, Gorgippia
Head of Apollo r./Tripod and thyrsos (AE – c. 8g)	Pantikapaion, Phanagoria, Gorgippia
c. 80-c. 63 BC?	
Head of Dionysos r./Bowcase (AE – c. 18g)	Bosporan anonymous
c. 63-c. 49 BC?	
Head of Apollon r./Eagle on fulmen (AE – c. 15g)	Pantikapaion
Head of Apollon r./Tripod (AE – c. 8g)	Pantikapaion
c. 49-c. 44 BC?	
Bust of Nike/Prow (AE – c. 17g)	ΑΡΧΟΝΤΟΣ ΑΣΑΝΔΡΟΥ
Bust of Nike/Prow (AE – c. 8g)	ΑΡΧΟΝΤΟΣ ΑΣΑΝΔΡΟΥ
Second half of the 2nd c. BC	
Head of Apollon r./Pegasos feeding l. (AE – c. 7.5g)	Pantikapaion

There is nothing to recommend in this reconstruction. The three errors are: 1) to have taken the chronology of Imhoof-Blumer for granted, 2) to have confused time of production with time of circulation and 3) to think that monetary issues are a clear sign of autonomy. This last assumption, sometimes called

among numismatists "lex seyrigiana" or "Lex Seyrig", from Henry Seyrig, has received considerable criticism in recent times (after Martin 1985). The many counter-examples we might propose have recently encouraged some to downgrade the importance of the right to strike coins to a minor privilege, which may coexist with a lack of autonomy.[11] This explanation is missing the point, I think. Monetary strikes by Athens under Antigonos Gonatas or by Pontic or Bosporan cities under Mithridates Eupator were not the result of some *benevolentia* or toleration by a king who wished to please the cities. Quite the opposite: they were encouraged by the king to serve his policy.

What appears now is a very different *scenario* for the Bosporos. The first phase, which may have started late (c. 90 BC or after), was a massive import of Mithridatic bronzes in the Bosporan kingdom, beginning with the type "Zeus/Eagle" from Sinope. This flow is likely to have been prolonged in the eighties. Then, not before 85 BC and possibly as late as 80 BC or even 75 BC, several local issues were minted, both silver and bronze, in Pantikapaion, Phanagoria and Gorgippia. Those issues, Mithridatic indeed by their types and their pattern (but which could be attributed to Machares), do not mean that the cities in question were free but, instead, that Pontic power took care to control and direct the monetary production. By the way, from a quantitative point of view (which, so far, is lacking), it seems that those issues are not as significant or large as generally assumed.

That this scenario has to be negotiated (a more trendy word than "discussed" – see M. Lawall in this volume) is clear. But it is altogether clear that numismatic chronologies do not support the fiction of a Mithridates Eupator, first friendly and respectful, then obliged to be brutal with the Bosporan cities.

Notes

1 Thompson 1961.
2 Ashton 1992.
3 Callataÿ 1997.
4 Callataÿ 1997.
5 Callataÿ 1994, 54-60.
6 Imhoof-Blumer 1912.
7 Callataÿ (forthcoming).
8 Karyškovskij 1965.
9 Anochin 1986; Price 1993; Stancomb 2000 and Frolova & Ireland 2003.
10 Callataÿ (forthcoming).
11 Oliver 2001 and Meadows 2001.

The Date of the Alliance between Chersonesos and Pharnakes (*IOSPE* I^2, 402) and its Implications

Jakob Munk Højte

INTRODUCTION

IOSPE I^2, 402 serves as an excellent example of the difficulties involved in establishing links between different chronologies. In this case not only linking the era in the inscription – termed the year-count of king Pharnakes of Pontos – to our Gregorian calendar, but also to other ancient calendar systems and to the relative chronologies of amphora stamps.

As one of the very few pieces of evidence in the Black Sea area with the potential of providing an absolute date before the reign of Mithridates VI Eupator, the inscription has entered discussions on a wide range of topics, some of which have wider chronological implications, such as the chronology of Chersonesos in the first half of the second century BC, not least the sequence of stamped amphoras; the date of the first Roman involvement in the Black Sea area and its extent, and the accession dates of the kings of Pontos, only to mention the most important ones.

Dated to 179 BC in its first publication,[1] in the belief that it formed part of the peace treaties described by Polybios in the aftermath of the Pontic War (Polyb. 25.2.3-15), and further substantiated by a constructed, otherwise unattested calendar system starting at the accession of Mithridates II of Kios (336-302 BC), this was long accepted as the correct date – and still is by many. In the early 1980s, however, two scholars, Burstein and McGing, separately reached the conclusion that the inscription was dated far too early, and that it was more likely the Seleucid calendar was in use in Pontos at the time of Pharnakes.[2] According to the Seleucid calendar the inscription dates to 155 BC.

Given the importance attached to the date of the inscription, I think it is worth examining the sources and the arguments for and against each of the proposed dates once again, and in addition reflecting on their implications on the chronology of the Black Sea area.

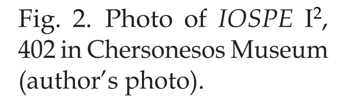
THE INSCRIPTION

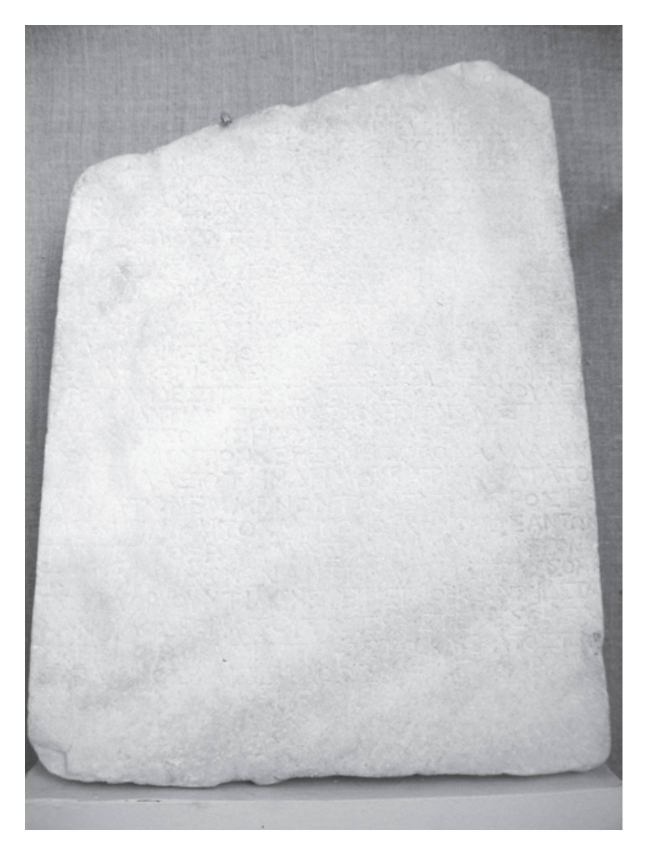
The inscription under discussion, found in Chersonesos in 1908 near the North-Eastern Basilica and published four years later by Leper, had been reused in the construction of a well. Its original context can therefore not be determined. It is a stele of which the bottom part has been fully preserved, whereas the top is broken. The remaining part, forty-seven cm. in height, contains thirty-two lines of text, the first seven of which are only partly preserved.

The drawing of the inscription in *IOSPE* (Fig. 1) shows the sides of the stele as slanting only slightly inwards, suggesting that it may have had a considerable height. This has given some scholars the impression that only a small part of the inscription has been preserved.[3] In reality, the sides are somewhat more slanted (Fig. 2) and the stone cannot have contained many more lines than the ones we can reconstruct with reasonable certainty.



Fig. 1. Line drawing of *IOSPE* I^2, 402.


Fig. 2. Photo of *IOSPE* I^2, 402 in Chersonesos Museum (author's photo).



The inscription contains two seemingly rather similar oaths sworn by the city of Chersonesos and Pharnakes I, the king of Pontos, respectively, to ratify a defensive alliance (see appendix 1 for the text and translation). Lines 1-6 states that the Chersonesites will preserve the kingdom (of Pharnakes) to the best of their ability as long as Pharnakes retains friendly relations with the city *and* with the Romans and does nothing to harm them. Lines 6-10 dates the oath according to the local calendar using eponymous magistrates and Herakleios, the name of a month. This is unfortunately of no help in dating the inscription, since we have very little knowledge about the sequence of Chersonesean magistrates.[4] Lines 10-29 give the complete oath sworn by Pharnakes to two ambassadors sent from Chersonesos. Pharnakes promises eternal friendship with Chersonesos, and if the neighbouring barbarians march against the city or the city's *chora*, and they apply to him for help, he will come to their aid if he can. Furthermore, he will not take any action which might harm the Chersonesites, but will preserve their democracy to the best of his ability. Again, Roman *philia* must also be observed by Chersonesos. Finally, in lines 29-32 the oath is dated to the year 157 in the month of Daisios according to the year-count of Pharnakes. The number is spelled out, and an error on the part of the stone cutter can therefore be ruled out.

The question is what calendar system the year-count of Pharnakes refers to. The only well-attested era in Pontos appears continuously on coins of Mithridates VI Eupator only from 96/95 BC. This calendar can with great certainty be proven to be identical to the Bithynian calendar, the so-called "king's era", starting in October 297 BC.[5] But this era can be ruled out in the case of *IOSPE* I^2, 402, since Pharnakes certainly was long dead by the 157th year, which equals our 141/140 BC. With 179 BC in mind as its likely date, Leper, followed by Rostovtzeff, looked back into the history of the kings of Pontos to find an event suitable as the starting point of an era.

THE DYNASTS OF KIOS AND THE QUESTION OF THE IDENTITY OF MITHRIDATES I KTISTES

The kings of Pontos were descendants of Persian dynasts in the city of Kios, of whom Mithridates I is the first known.[6] He is only mentioned by Diodoros Sikulos (15.90.3) and although we do not know the time of his death, he was certainly succeeded by an Ariobarzanes. One possibility is that it was the Ariobarzanes who later became satrap of Phrygia and was executed for his role in the revolt against the Great King from 368/367 BC. He was later betrayed by his son Mithridates and put to death (Diod. 15.90.3). The successor was then his oldest son, another Ariobarzanes.[7] However, Diodoros could have erroneously fused together two different dynastic lines with homonymous rulers – the satraps at Daskyleion and the dynasts of Kios, in which case there need not have been more than one Ariobarzanes, the son of Mithridates I, who ruled from 362 BC.[8] During the year 337/336 BC, dated by the Athenian archon Phrynichos, Diodoros relates that Ariobarzanes died after reigning for twenty-six years and that Mithridates II succeeded him and reigned for thirty-five years (Diod. 16.90.2) – that is, until 302/301 BC. In that year Mithridates II came under suspicion of conspiring against Antigonos and was executed near Kios. Another Mithridates (III) inherits the dominion but is warned by his friend Demetrios Poliorketes, the son of Antigonos, that he too is under suspicion, and so he flees to Paphlagonia, where he ruled for thirty-six years.[9] Diodoros calls him the son of Mithridates (Diod. 22.111.4), while Plutarch says that he was the son of Ariobarzanes (Plut., *Vit. Demetr.* 4.1). This small problem aside, the larger problem of which of the two last Mithridates was reckoned as the founder of the kingdom of Pontos relates directly to the discussion of the date of *IOSPE* I^2, 402. Adherents of the date 179 BC[10] have argued that Mithridates II was regarded as the founder of the dynasty. This would account for the information in Appian (App., *Mith.* 9 &12) and Plutarch (Plut., *Vit. Demetr.* 4.4) that Mithridates VI Eupator was the eighth king of Pontos and the sixth to be called Mithridates. Furthermore, this reconstruction would account for the five royal tombs in Amaseia, one of which was left unfinished, presumably when Pharnakes moved the capital to Sinope after its capture in 183 BC.

What looms in the background, however, is the desire to provide the necessary event by which *IOSPE* I^2, 402 could be dated to 179 BC.

Serious objections against this scheme have been raised. Firstly, since the Macedonian month Daisios, roughly corresponding to the month of May, appears in *IOSPE* I^2, 402, we should expect that as in the Macedonian calendar the new year started with the autumn equinox. Diodoros, on the other hand, uses the Athenian calendar, which began in midsummer, and there is thus no overlapping between the year of the accession of Mithridates II of Kios and the 157th year if we count backwards from a supposed date of the inscription in May 179 BC.[11] Dating *IOSPE* I^2, 402 correctly according to the information given by Diodoros would result in May 180 BC, a complete impossibility, since fighting between Pharnakes and Eumenes backed by the Romans was still going on at that time. Secondly, we would have to disregard the evidence of Plutarch (Plut., *Vit. Demetr*. 4.1), who specifically says that the founder of the dynasty was the younger Mithridates, a contemporary of Demetrios. Thirdly, we would have a calendar system that absolutely no other evidence supports – a possibility, of course, but dubious at best.

On the other hand, counting Mithridates the younger of Kios as the founder of the dynasty necessitates the insertion of an otherwise unattested Mithridates in order to make Mithridates Eupator the sixth and last king of Pontos to bear that name as Appianos inform us. The lack of evidence for a king of Pontos is not entirely surprising considering the fact that we have no literary references to the kings in the thirty-seven years between the two attacks on Sinope in 220 and 183 BC, which in itself is interesting testimony to the hellenocentric nature of our sources. This interval of more than a generation could easily accommodate one further king.

THE REIGN OF PHARNAKES

The next complex of arguments concerns the termini of the reign of Pharnakes. We know for certain that Pharnakes was king in 179 BC, but was he still alive in 155 BC? If it can be shown that Pharnakes no longer reigned in May 155 BC, the Seleucid era will be ruled out for determining the date of the alliance with Chersonesos.

The first reference to Pharnakes in the literary sources dates to the winter or spring of 182 BC (Polyb. 23.9.1-3; Livy 40.2.6), when he sent ambassadors to the Roman Senate to present his case after accusations raised by Eumenes of Pergamon and the Rhodians. The Rhodians complained about the recent capture of Sinope by Pharnakes. The nature of the dispute between Pharnakes and Eumenes is not specified, but probably concerns Pharnakes' ambitions in Galatia. The Pontic War to which this is the prelude and conclusion, and to which we shall return later, is on the whole fairly well attested in Polybios, Livius and Diodoros.

After the Pontic War, Pharnakes disappears from the literary sources only to reappear one last time in Polybios' statement concerning the year 170 BC that "Pharnakes surpassed all previous kings in his contempt for laws" (Polyb. 27.17). Some scholars have interpreted this as an obituary notice, but as pointed out by Walbank in his commentary, we are dealing with a fragment, the meaning of which cannot be reconstructed.[12] It could feasibly be an introduction to something else – an instance of Pharnakes violating the peace treaty of 179 BC, for example. Therefore this piece of evidence should not be overemphasized. Apart from this we have no definite information regarding the date of the death of Pharnakes. The earliest reference to the successor to Pharnakes occurs in the winter of 155/154 BC, when Mithridates IV acts as an ally of Attalos II against Prusias (Polyb. 33.12.1). Consequently, Pharnakes could feasibly have entered the alliance with Chersonesos in May 155 BC during the last year of his reign.

A very important document concerning the life of Pharnakes, an honorary decree erected on Delos by the Athenians (*IG* XI, 1056),[13] has ironically been used in support of both an early accession and a late death. It records Pharnakes' reception of Athenian ambassadors and his promise to make payments according to a previous agreement despite his present difficulties. It further records his recent marriage to Nysa, the daughter of Antiochos and Laodike.[14]

Based on a restoration in line 2 of the archon's name as Tychandros because of the appearance of a secretary from Marathon, the decree has been assigned the date 160/159 BC,[15] and it has been used as the primary argument against the theory of the obituary notice in Polybios. However, in 1992 (after Burstein and McGing and after the completion of the thorough work by Leschhorn, *Antike Ären*), Stephen Tracy rejected this date and instead proposed the much earlier date of 196/195 BC.[16] He identifies the stone cutter of the inscription with a known Athenian stone cutter who was active in the period from 226/225 to about 190 BC, and further supports the date with a prosopographical study of the persons mentioned, which also points to a date in the 190s BC. The specific date 196/195 BC is the only available slot in the Athenian list of archons during this period for a secretary from Marathon. Nysa then becomes the daughter of Antiochos III, whose intention, Tracy argues, was to prepare the way for the re-conquest of Asia Minor. If Tracy's observation is correct, the manoeuvre, for all we know, did not prove successful in involving Pharnakes actively in the war. Intermarriage between the Seleucid and Pontic dynasties was not a new phenomenon either: Mithridates II had married Laodike, the sister of Seleukos II, and the daughter of Mithridates II had married Achaios the brother-in-law of Seleukos II. It need not have had direct strategic implications.

Tracy does have a point in saying that the inscription must belong early in his reign. The fact that Athens sent ambassadors and the nature of their errand imply that Pharnakes had recently come to power, and the financial

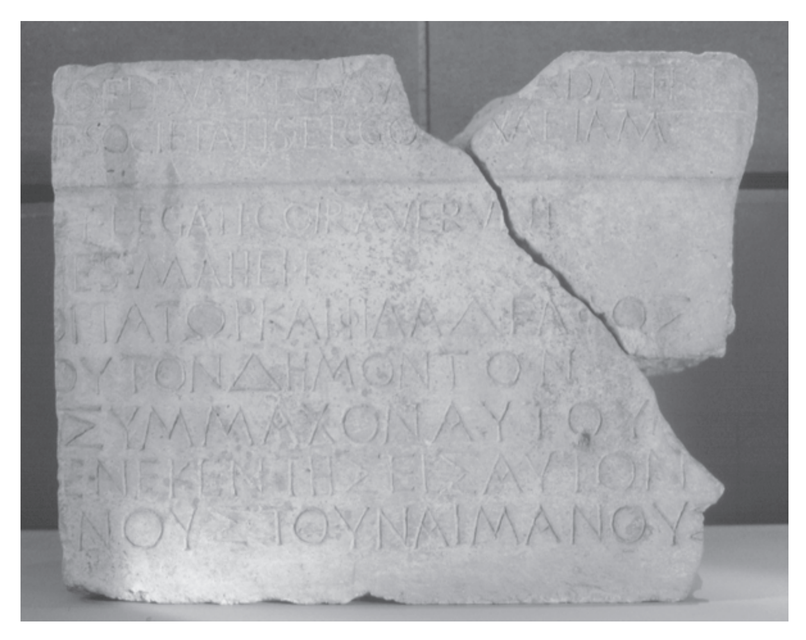


Fig. 3. Fragment of the base on the Capitol in Rome (*CIL* I² 2, 730 = *CIL* VI, 30922) with a dedication by Mithridates Philopator Philadelphos, who can probably be identified as Mithridates IV (author's photo).

obligations he promises to take on reasonably belong to an earlier agreement between Athens and the father of Pharnakes. Furthermore, an interdynastic marriage would make far more sense early in the reign than towards its end in 159 BC. The new date removes the only definite evidence for Pharnakes after Polybios' so-called obituary, but as stated above the meaning of this passage cannot be determined with certainty.

A base found on the Capitol in Rome (Fig. 3) with dedications by kings and cities of Asia Minor, including one by a king Mithridates with the epithets Philopator and Philadelphos, has been the subject of much controversy.[17] It needs to be mentioned here because it has been part of the argument in favour of 170 BC as the year of the death of Pharnakes. Judging from the dedication of the Lycian *koinon*, which for historical reasons must date shortly after 168 BC, when Roman intervention secured Lycian independence from Rhodos, it would seem that Mithridates was the brother and successor of Pharnakes, and that he ruled shortly after 170 BC. However, some of the other dedications on the base seemed impossible to reconcile with a date around 168 BC, and Mommsen and Degrassi for paleographical and typological reasons favoured a Sullan date for the inscriptions, proposing that Mithridates was an otherwise unknown son of Mithridates VI.[18] Mellor, I think, offers the most convincing explanation for these contradictions,[19] arguing that the base is indeed Sullan and that the dedications had been re-inscribed from different monuments on a

collective base after the devastating fire of 83 BC. The date of each individual dedication has therefore no relation to the others, and the base thus bears no witness to the accession date of Mithridates IV.[20]

After the publications of Burstein and McGing, different adherents of the traditional date have of course responded, but the only new argument has been forwarded by Vinogradov.[21] It concerns the consequences for the length of the reign of Mithridates IV. We know that Mithridates V was in power at the outbreak of the third Punic War (App., *Mithr.* 10) because he offers the Romans his assistance. Furthermore, if we accept the Seleucid date for *IOSPE* I^2, 402, it follows that the same calendar should apply to the stele from Inebolu in honour of the strategos Alkimos and dated to the year 161, i.e. 152/151 BC.[22] It has otherwise been dated to 137/136 BC according to the Bithynian king's era starting in 297 BC. Using the calendar starting with the accession of Mithridates II of Kios would result in much too early a date for the inscription. This would restrict the reign of Mithridates IV to a mere three years, which is much too short, according to Vinogradov, for the diverse types found on this king's coinage and the number of specimens preserved.[23] He compares with the reign of Mithridates V, who reigned for about 30 years, but of whose coinage only one or possibly two specimens are known.[24] This discrepancy will of course prevail no matter how long we consider the reign of Mithridates IV to be, and it only proves that the length of reign is far from the only factor in determining the volume of coinage produced. To my mind this should not deter us from constraining the reign of Mithridates IV to only three years.

If we accept both Tracy's early date of the accession and Burstein and McGing's late date for his death, Pharnakes' reign stretches from c. 197 to 155 BC. Forty-two years is a long reign, but not conspicuously long when compared to the reign of his grandson Mithridates VI, who ruled for more than half a century. If we stick to the traditional date and a foundation of the dynasty by Mithridates II in 336 BC, we are still faced with the problem of a long reign for Mithridates, the father of Pharnakes, from about 250 and into the second century BC.

THE SITUATION DESCRIBED IN THE INSCRIPTION

The last set of arguments concerns the relationship between the situation described in *IOSPE* I^2, 402 and our knowledge of the historical situation in 179 BC.

We learn from the inscription, that the city of Chersonesos is threatened by its neighbouring barbarians. The directness of the statement indicates that barbarian incursions had already taken place, or there was an immediate threat of attack. Although we cannot determine the conditions of the oath sworn by the city of Chersonesos, it seems beyond doubt that this indeed was the

primary reason for entering the defensive alliance. That the initiative comes from Chersonesos is further shown by the fact that they were the ones who sent ambassadors. In line 25 we learn that the alliance only comes into effect if the Chersonesites swear the same oath. We must imagine that the ambassadors have proposed an alliance on behalf of the people of Chersonesos. It would be awkward for the Chersonesites to swear an oath of alliance before knowing whether the counterpart would agree to it. Pharnakes agrees to an alliance under the terms specified and on the condition that the Chersonesites swear the same oath.

The oath taken by Pharnakes may suggest that previous relations between Chersonesos and Pharnakes had not been altogether happy. When Pharnakes promises to preserve the democracy and not to plot against or harm the Chersonesites, it may indicate that there had been previous incidents of the contrary. Furthermore, the insertion of "if he is summoned" in lines 16-17 could be interpreted as a clause against Pharnakes using barbarian incursions as a pretext for entering into affairs in the north Pontic without the consent of Chersonesos.

How does this correspond with our knowledge of the peace treaty at the end of the Pontic War? Polybios describes in full the conclusion of the war and the terms of peace (Polyb. 25.2.3-15): "there is to be peace between Eumenes, Prusias and Ariarathes on the one hand and Pharnakes and Mithridates of Armenia on the other for all time." Then follows the precise terms – all relating to affairs in Asia Minor – and finally a list of *adscripti* to the treaty, which among others include the cities of Herakleia, Mesembria, Chersonesos and Kyzikos. Polybios does not specify which side the *adscripti* had joined during the war. Some have argued that they had opposed Pharnakes, others have taken the opposite standpoint. There are indeed arguments in favour of both.[25] One way or the other the treaty in *IOSPE* I^2, 402 seems awkward in the context of 179 BC. If they had been adversaries, Pontos would certainly be a strange place for Chersonesos to seek aid against barbarian attacks immediately after the conclusion of the war. If they had joined forces, would there have been a need to renew the alliance under these conditions? And why the safeguarding against Pharnakes plotting against or harming the Chersonesites? This makes much more sense if the treaty is from 155 BC. At that time the Chersonesites could, somewhat against their will, have been forced to seek help from their former adversary Pharnakes, possibly because the kings of Pergamon and Bithynia, their previous allies, were busy waging war against each other.

Other curiosities of *IOSPE* I^2, 402, if viewed in the context of 179 BC, are the complete absence of the other signers of the peace treaty and the absence of its general terms, and perhaps most importantly the strong emphasis on good relations with Rome, which is to be observed by both parties. This has always been at odds with our knowledge of Roman policy in Asia Minor at the time. Rome certainly had acted as intermediary on several occasions during the war, and had sent no fewer than three commissions to inquire into the

conduct of the different players,[26] but in the end the war was concluded by the decisive action taken by Eumenes attacking Pharnakes with full force. Faced with defeat, Pharnakes, we hear in Polybios (25.2), sent envoys to Eumenes and Ariarathes to sue for peace. Rome is mentioned neither in the negotiations for peace nor in the treaty itself. Yet in *IOSPE* I^2, 402 Rome seems to exert substantial influence in the Black Sea area, and in their mutual relations Chersonesos and Pharnakes act as if they were Roman clients. This is not compatible with the situation prior to the defeat of Perseus of Macedon in 168 BC, after which Rome extended its hegemony eastwards and northwards into the Black Sea. Throughout the 180s and 170s BC Rome supported Eumenes steadily and only reluctantly entered the affairs of Asia Minor themselves. It would therefore be curious to find an enemy of Eumenes during the Pontic War promising to uphold *philia* with Rome as early as 179 BC.[27]

Rather than being part of the peace treaty described by Polybios, *IOSPE* I^2, 402 appears to be an appeal by the Chersonesites for assistance against barbarian attacks at a date somewhat later than 179 BC.

THE CHRONOLOGY OF THE CHERSONESEAN STAMPED AMPHORAS

One of the areas where changing the date of *IOSPE* I^2, 402 will have the deepest implications is the chronology of the excavations carried out in Chersonesos and its *chora*. When it comes to the first half of the second century BC this is to a large extent built up around the date of the inscription.

In "Ceramic Stamps of Tauric Chersonesus" from 1994, Kac divides the amphora stamps into three main groups, each with three or four subgroups.[28] Kac dates the third group to the period between 230 and 185 BC. This group includes forty different *astynomoi* and is the one which mainly concerns us hereto. He admits that there are no good closed contexts by which to date the lower chronological limit, but advances two arguments: the first concerns the synchronicity of the latest stamps of group three with the latest stamps of Sinope supposed to date shortly before the capture of the town by Pharnakes in 183 BC, and the second the crises reflected in *IOSPE* I^2, 402 with barbarians overrunning the city's territory rendering farming unprofitable and thus causing the production of amphoras, primarily intended for export of wine, to cease. However, the destruction of the Chersonesean *chora* connected with barbarian incursions in the second century BC is primarily dated on the basis of the amphora stamps,[29] which are in turn dated on the assumption that the alliance with Pharnakes took place in 179 BC. Regarding the synchronicity with Sinopean amphora stamps, their chronology is not beyond dispute.[30] We must at any rate calculate with the possibility of a certain time lag between their production and their deposit on the farms in Chersonesos.

If we accept the Seleucid calendar date for *IOSPE* I^2, 402, then Chersonesos

still held a functioning *chora* in 155 BC, which indeed seems to be confirmed by finds of Rhodian stamped amphoras in the *chora*, now dated by Finkielsztejn to shortly before the middle of the second century BC.[31] In this light it would seem probable that the Chersonesean stamped amphoras continued further into the second century BC than supposed by Kac. This does not necessarily mean that the *chora* functioned continuously during the first half of the second century BC. There may have been times during this period when barbarian incursions caused destruction. Placing the terminus of the Chersonesean amphora production before the date of the alliance, as Kac does, must at any rate be false, since *IOSPE* I^2, 402 specifically states that a *chora* worth defending still existed.

CONCLUSION

Currently no definite proof exists for either of the proposed dates for *IOSPE* I^2, 402. It is possible that this may turn up in the future, most likely in the form of proof that either Pharnakes or Mithridates IV was king in the period between 170 and 155 BC. Until then, the Seleucid calendar seems most the probable for determining the date of the inscription, and, consequently, the history of Chersonesos in the first half of the second century BC needs to be reconsidered. Most importantly the date of the termination of the production of stamped amphoras needs to be determined more precisely, as this is paramount for understanding the chronology of the city's *chora*. *IOSPE* I^2, 402 does not support the proposed date of about 180 BC and other criteria should be sought.

Appendix 1. Text and translation

IOSPE I², 402:

[- - - - - - - - - - - - - - - - - ἀλλὰ]
[συνδιαφυλαξοῦμεν τὰν αὐτοῦ βασ]ιλεί[αν]
[κατὰ τὸ δυνατόν, ἐμμένοντ]ος ἐν τᾶι ποθ' ἁ[μὲς]
[φιλίαι, τάν τε ποτὶ Ῥωμ]αίους φιλίαν διαφυλά[σ]-
[σοντος καὶ μηδὲ]ν ἐναντίον αὐτοῖς πράσ-
[σοντος. εὐ]ορκοῦσι μὲν ἁμῖν εὖ εἴη, ἐπιορκοῦ-
[σι δὲ τἀ]ναντία. ὁ δὲ ὅρκος οὗτος συνετε-
[λέ]σθη μηνὸς Ἡρακλείου πεντεκαιδεκάτα[ι],
βασιλεύοντος Ἀπολλοδώρου τοῦ Ἡρογεί-
του, γραμματεύοντος Ἡροδότου τοῦ Ἡρο-
δότου. ὅρκος, ὃν ὤμοσε βασιλεὺς Φαρνάκης
πρεσβευσάντων παρ' αὐτὸν Μάτριος καὶ Ἡρακλε[ί]-
ου. ὀμνύω Δία, Γῆν, Ἥλιον, θεοὺς Ὀλυμπίους πάντας
καὶ πάσας. φίλος ἔσομαι Χερσονησίταις διὰ παν-
τός, καὶ ἂν οἱ παρακείμενοι βάρβαροι στρατεύωσιν
ἐπὶ Χερσόνησον ἢ τὴν κρατουμένην ὑπὸ Χερσο-
νησιτῶν χώραν ἢ ἀδικῶσιν Χερσονησίτας, καὶ ἐπι-
καλῶνταί με, βοηθήσω αὐτοῖς, καθὼς ἂν ᾖ μοι και-
ρός, καὶ οὐκ ἐπιβουλεύσω Χερσονησίταις κατ' οὐδένα
τρόπον, οὐδὲ στρατεύσω ἐπὶ Χερσόνησον, οὐδὲ
ὅπλα ἐναντία θήσομαι Χερσονησίταις, οὐδὲ πράξω
κατὰ Χερσονησιτῶν ὃ μέλλει βλάπτειν
τὸν δῆμον τὸν Χερσονησιτῶν, ἀλλὰ συν-
διαφυλάξω τὴν δημοκρατίαν κατὰ τὸ
δυνατόν, ἐμμενόντων ἐν τῆι πρὸς ἐ-
μὲ φιλίαι καὶ τὸν αὐτὸν ὅρκον ὀμοσάντων,
τήν τε πρὸς Ῥωμαίους φιλίαν διαφυλασσόν-
των καὶ μηδὲν ἐναντίον αὐτοῖς πρασσόν-
των. εὐορκοῦντι μὲν εὖ εἴη, ἐπιορκοῦντι δὲ τἀ-
ναντία. ὁ δὲ ὅρκος οὗτος συνετελέσθη ἐν
τῶι ἑβδόμωι καὶ πεντηκοστῶι καὶ ἑκατοστῶι
ἔτει, μηνὸς Δαισίου, καθὼς βασιλεὺς Φαρνάκ[ης]
ἄγει.

Translation by Burstein (1980, 4):

[... but we shall attempt to preserve his ki]ngd[om to the best of our ability so long as he remains in friendship] with us and preserves friendship [with the Rom]ans and does [nothin]g against them. May all be well with us if we do not violate our oath and the opposite if we do. This oath was sworn on the fifteenth day of the month Herakleios when Apollodorus son of Herogeiton was king and Herodotus son of Herodotus secretary.

The oath which king Pharnaces swore when Matris and Heracleius went on embassy to him. I swear by Zeus, Ge, Helius and all the Olympian gods and goddesses. I will be a friend to the Chersonesites for all time. If the neighboring barbarians march against Chersonesus or the territory ruled by Chersonesus or injure the Chersonesites and they summon me, I will come to their aid if I can, and I will not plot against the Chersonesites nor will I do anything against the Chersonesites which might harm the Chersonesites, but I will attempt to preserve the democracy to the best of my ability so long as they remain in friendship with me and swear the same oath and preserve friendship with the Romans and do nothing against them. May all be well with me if I do not violate my oath and the opposite if I do. This oath was sworn in the one hundred fifty-seventh year, in the month Daisios, on king Pharnaces' year-count.

Appendix 2. Chronological table

It should be noted that only dates that are relevant to the present discussion are included in the table, and in several instances different propositions for dates are listed.

5th-4th cent.	Mithridatid dynasts in Kios and possibly in Mysia and among the Mariandynians
363/362	Death of Ariobarzanes or Mithridates? Accession of Ariobarzanes
337/336	Death of Ariobarzanes; accession of Mithridates II = I Ktistes of Pontos?
302/301	Execution of Mithridates II; accession of Mithridates III = Mithridates I Ktistes of Pontos?, who flees (or had already fled) to Paphlagonia
281?	Mithridates I Ktistes assumes the title of *basileus*
266	Death of Mithridates I; accession of Ariobarzanes
c. 250	Death of Ariobarzanes; accession of Mithridates II
220	Attack on Sinope by Mithridates II (or possibly Mithridates III)
?	Death of Mithridates II; accession of Mithridates III
?	Death of Mithridates III; accession of Pharnakes
195	Date proposed by Tracy for *IG* XI, 1056 mentioning the marriage between Pharnakes and Nysa
183	Pharnakes conquers Sinope
183-179	Pontic War between Pharnakes and Mithridates of Armenia on the one side and Eumenes, Prusias and Ariarathes on the other
182	Earliest literary reference to Pharnakes
179	Traditional date of *IOSPE* I^2, 402 according to calendar starting with the accession of Mithridates II of Kios
170	Polybios (27.17): "Pharnakes surpassed all previous kings in his contempt for the laws". Obituary?
160	Previously accepted date for *IG* XI, 1056 mentioning the marriage between Pharnakes and Nysa
155	Proposed date of *IOSPE* I^2, 402 according to the Seleucid calendar
155	Death of Pharnakes?
155/154	Earliest literary reference to Mithridates IV
152	Date according to the Seleucid era of the Inebolu inscription mentioning Mithridates V
149	Earliest literary reference to Mithridates V

Notes

1 Leper 1912. For later literature see, Perl 1968, 301-302, n. 10 and Leschhorn 1993, 78.
2 Burstein 1980; McGing 1986b, 253-254.
3 For example Magie 1950, 1090, n. 45.
4 For the calendar of Chersonesos, see Solomonik 1976, 139 and Leschhorn 1993, 64-71.
5 Perl 1968.
6 For the latest discussion of the origin of the Mithridatids see Bosworth & Wheatly (1998, 155-64), who argue that their possessions were much larger than just the city of Kios, and may have comprised much of Mysia and the territory of Mariandynia south of Herakleia. In this case the claim of descent from Dareios could be true since Gobreas, a son of Dareios, ruled Mariandynia at the time of Xerxes' invasion of Greece. For the traditional view of petty fiefs in Kios, see Corsten 1985, 24-30 and McGing 1986b with earlier literature. Reinach (1895, 4) argued that the dynasty in Kios as the origin of the kings of Pontos was altogether a later construction.
7 For this view, see McGing 1986b, McGing 1986a, 13-15 and Corsten 1985, 28. The crucifixion is only found in Harpokration, Ariobarzanes. Reinach (1895, 4) was of the opinion, that Ariobarzanes the satrap survived the revolt and continued to rule in Kios.
8 Bosworth & Wheatly 1998, 160.
9 Bosworth & Wheatly (1998, 161-164) argues that Mithridates had fled several years earlier. For one thing, Demetrios could hardly have been present in Kios in 302 BC, where Plutarch lets his story take place. For another, Demetrios, who was born in 336 BC, could no longer be called a youth in 302/01 BC as Plutarch does.
10 Leper 1912; Rostovtzeff in *CAH* vol. IX, 217.
11 Burstein 1980, 6.
12 Walbank 1979, 318.
13 Dürrbach & Jardé 1905.
14 The identity of Nysa is disputed. She could be the daughter of either Antiochos III Megas (Tracy 1992, 309), an Antiochos, son of Antiochos III, who died before his father (*CAH* vol. VIII2, 520-521 stemma), or Antiochos IV Epiphanes (Mørkholm 1966, 54, 60; *CAH* vol. VIII2, 357 & 536).
15 Meritt 1977, 183.
16 Tracy 1992; 1990.
17 Reusser 1993, 138-158 with earlier literature.
18 Mommsen 1887 and Degrassi 1951/52.
19 Mellor 1978.
20 Recently Canali De Rossi (1999, 37-46) has proposed that the Mithridates of the inscription could indeed be Mithridates VI, who supposedly should have employed the epithets Philopator and Philadelphos early in his reign before taking the more well-known Eupator. The arguments in favour of this are however rather far fetched.
21 Vinogradov 1990; Saprykin 1990, 207.
22 Reinach 1905, 113-119.

23 Waddington, Babelon & Reinach 1925, 12-13. Recently Mattingly (1998, 255-257) has even attempted to re-date the coins normally attributed to Mithridates III to the reign of Mithridates IV, thus enlarging the corpus further.

24 Robert 1978, 151-163.

25 The traditional view, which McGing (1986b, 29) also favours, is that the Greek cities were opposed to Pharnakes, whereas Burstein (1980, 5, n. 25) claims that at least Herakleia and Chersonesos were sympathetic towards him.

26 The three Roman commissions: Polyb. 23.9.3, 24.1.3, 24.15.1-12.

27 Sherwin-White 1984, 28-29, 42-43; Gruen 1984, 553-554; McShane 1964, 155-158.

28 Kac 1994. Groups on p. 79, table 5. Specification of absolute chronology on p. 161-164. See also Kac 1985. For further discussion of the dating scheme of Kac, see the paper by V. Stolba in this volume.

29 Kac 1994, 72-74.

30 Latest Fedoseev 1999, 27-48.

31 Zolorarev & Turovskij 1990, 80 mention a stamp of the fourth group of Rhodian stamps in farmhouse 26, but this is questioned by Kac 1994, 73. For the date of this group, see now Finkielsztejn 2001, 172-174 & tab. 20. Saprykin (1994, 20) gives an even later date for the destruction of the farmhouses on the *chora*.

Hellenistic Chersonesos: Towards Establishing a Local Chronology

Vladimir F. Stolba

INTRODUCTION

As in the case of many other colonies of the Pontic Greeks, any attempt at establishing a local chronology of Hellenistic Chersonesos is hampered by the scarcity of literary sources and the relatively small number of inscriptions, which may contribute to this task.

Because of their prosopographical data, local amphora stamps – the chronology of which was developed recently by Vladimir I. Kac[1] – are usually considered the most reliable criterion not only for dating archaeological contexts, but also for adjusting both numismatic and epigraphic chronologies. Thus, for instance, the settlement chronology of the Chersonesean *chora* is mainly based on the local amphora stamps as well as on the stamps of Thasos, Sinope and Rhodos, while all other groups of artefacts like amphoras, black-glazed pottery, and even coins, play in fact an auxiliary role, first and foremost because of the degree of precision they may offer. Similarly, the stamp chronology was applied for re-dating one of the central epigraphical documents of Chersonesos, the so-called statement of the land lease (*IOSPE* I^2, 403).[2] As stressed by Ju.G. Vinogradov and A.N. Ščeglov, the prosopographical analysis of the inscription is based mainly on "the fundamentally elaborated chronological classification of Chersonesean amphora stamps".[3]

We must admit, however, that in contrast to a number of other scholars, both historians and archaeologists, who in their conception rely on the stamp chronology as if it were firmly established, V.I. Kac himself fully realizes the danger of such an idealization.[4] Although playing a crucial role in establishing a general chronology of Chersonesos, the devising of the chronology for the local amphora stamps still proves to lack so-called fixed points.

CHERSONESEAN AMPHORA STAMP CHRONOLOGY

Kac's chronological sequence

The chronology developed by Kac is based mainly on typological observations. Taking as his point of departure the belief that the composition and

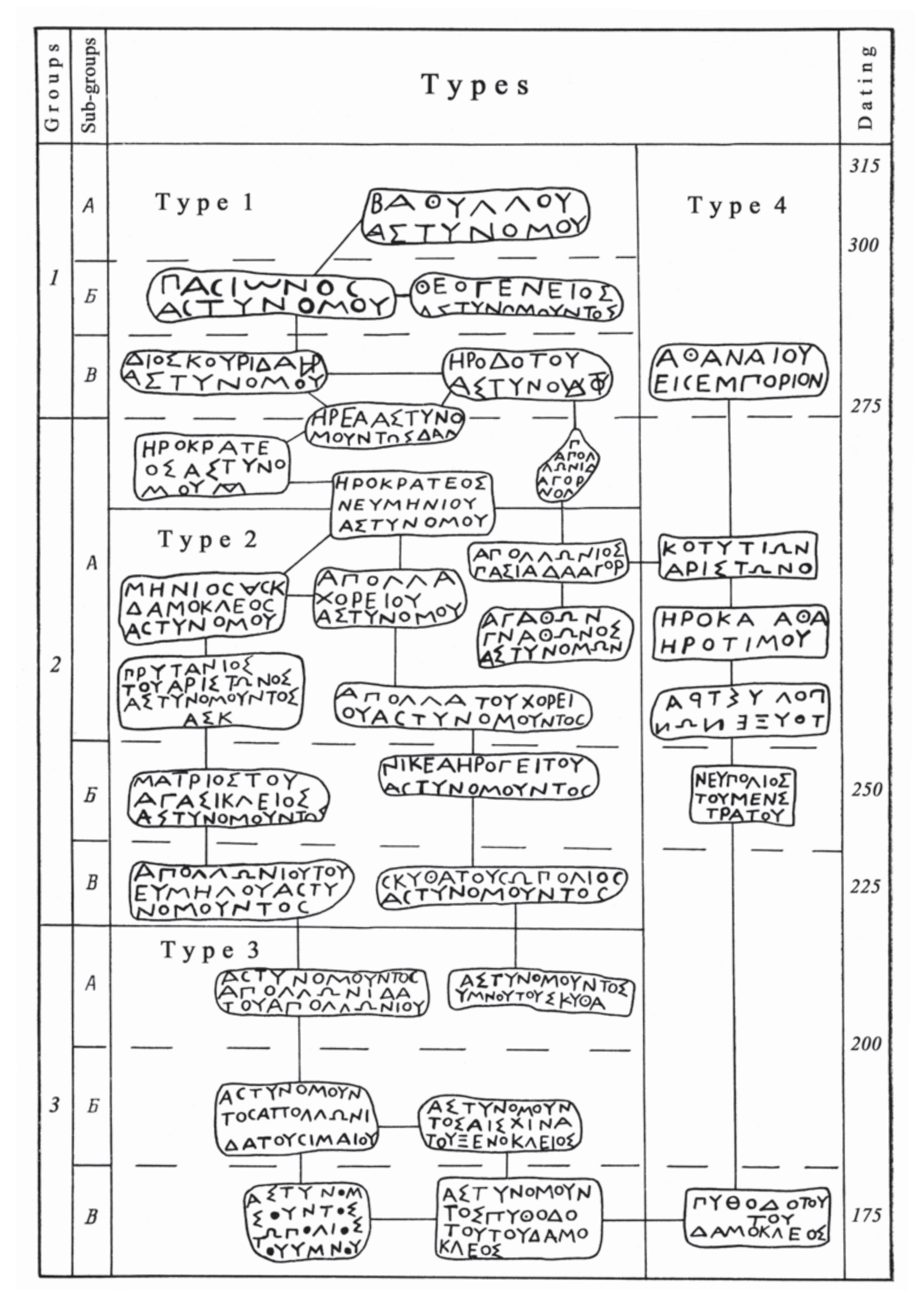


Fig. 1. Typology of the Chersonesean amphora stamps (after Kac 1985).

arrangement of the basic elements of a reading constitute the most important typological feature, he distinguishes four different types of stamps (Fig. 1):[5]

Type 1 comprises stamps containing a name without patronymic, followed by the magistrate's title;
Type 2 is characterized by the legend containing a name with patronymic, followed by the title;
Type 3 is composed of stamps in which the title is put before the name and patronymic;
Type 4 comprises the stamp without any title in the legend.

Whilst according to Kac the first three types apparently represent an uninterrupted chronological sequence and may, therefore, each form a chronological group, Type 4 was considered as atypical variations of all of the three foregoing types of stamps. This typological study resulted in constituting three chronological groups consisting of three to four sub-groups each. The chronological limits suggested by Kac for each sub-group and correspondingly a number of registered magistrates are summarized in Table 1:

Table 1.

Groups		Date	Number of recorded magistrates	Number of years
1	А	325-315	39	40
	Б	315-300		
	В	300-285		
2	А	285-272	48	55
	Б	272-262		
	В	262-237		
	Г	237-230		
3	А	230-215	40	45
	Б	215-200		
	В	200-185		
1-3		**325-185**	**127**	**140**

The first question that arises is: how certain are the dates Kac has arrived at, not only for individual groups and sub-groups, but first and foremost for the most significant points for the sequence, the beginning and the end of the stamping?

Evidence for the starting date

In his earlier publication from 1985 he considered the late 4th century or more precisely 320-315 BC as the most appropriate starting point of the local amphora stamping.[6] Nine years of intensive research resulted in pushing this date back by five years, i.e. to 325 BC. A.B. Kolesnikov and Ju.B. Michlin have arrived at almost the same conclusion suggesting that this practice began in the 320s and 330 BC respectively.[7] Whilst Michlin relies on the local coin chronology, which in itself needs a number of further adjustments, Kac's attempt based on the closed ceramic deposits is undoubtedly to be preferred. However, even in this case the context, which at first glance seemed to be fairly well datable, may cause some confusion depending on which of the existing ceramic or amphora stamp chronologies the scholars rely on.

"Closed" deposits: Chersonesean theatre and Majak

Among the most important deposits, which Kac refers to in order to substantiate the suggested date 325 BC are two collections of amphora stamps obtained by the excavations in the distant *chora* of Chersonesos and in the city itself. The last of the contexts is a fill underlying the ruins of the early Hellenistic theatre comprising over 200 tile and amphora stamps of Mende, Akanthos, Knidos, Thasos, Herakleia and Sinope. The total absence of Chersonesean stamps antedates the accumulation of the layer to the period preceding the introduction of the local amphora stamping. The first of the two mentioned assemblages where, on the contrary, the earliest Chersonesean stamps are well represented comes from the excavations of the farmhouses near the lighthouse of Eupatoria, the so-called "Majak". According to A.B. Kolesnikov, who in this particular point bases his arguments largely on the stamps of Sinope, Herakleia and Thasos, the appearance of these farmhouses dates to the beginning of the last third of the 4th century BC.[8]

Aiming at a more accurate date for his scheme Kac adduced mostly the stamps of five Sinopean officials Antimachos, Gyrittos, Epielpos, Poseidonios and Mantitheos since all of them are represented in both contexts as the youngest and the earliest magistrates respectively. Working from the chronologies of Sinopean stamps elaborated by A.B. Kolesnikov[9] as well as by N. Conovici, A. Avram and G. Boenaru-Bordea[10] he assigns them to the 320s BC in the middle of chronological group 2. However, one will arrive at a different date when applying the stamp chronology developed more recently by Nikolai F. Fedoseev.[11] According to his scheme the activity of the magistrates in question falls into the period between 360 and 330 where Gyrittos and Antimachos, dated to 345-335 and to 340-330 respectively, appear to be the youngest. Epielpos and Poseidonios III, both ascribed 350-340, come close to it, and only Mantitheos, dated to 360-350 BC, seems to be an outsider.

Thasian stamp chronology and its implications

The collection of Thasian stamps retrieved from the fill below the theatre presumed to support Kac's dating, could in fact, corroborate both his own scheme and the pushing up of the Sinopean chronology as suggested by Fedoseev. It depends greatly on how the discussion about Thasian stamp chronology is concluded. From 20 specimens recorded in this assemblage, eight belong to the second period of stamping being solely represented by the eponym Kleitos, who appears to be the earliest official of that period. Therefore, the transitional date from old style Thasian stamps to the stamps of the later period is obviously of crucial importance for the Chersonesean chronology. The same is true for the initial date of the Thasian stamping, since with a fixed number of the old-style eponyms recorded these dates become closely interrelated.

As early as 1956, Virginia Grace publishing the Pnyx material suggested c. 340 BC as the point when the break in the Thasian stamping system presumably happened.[12] Notwithstanding the wide acceptance of Grace's assumption, Kac refers to Y. Garlan, who questions the association between the conquest of Philip II and the Thasian stamping reform and places the transition to the new style stamps about ten years later, i.e. c. 330 BC,[13] which by a fixed number of the old-style eponyms also means the lowering of the initial date from before 400 BC proposed by Grace to c. 390. To prove this date, Garlan, like A. Avram in recent publication of the Thasian stamps from the Istros excavations,[14] also takes account of the context of the 4th century fill of Pnyx III, which seems to indicate the end of the early-style Thasian stamping. Yet, as stressed by Mark Lawall in his review from 2001,[15] the date of c. 330-326 BC, which both Avram and Garlan regard as a closing date for Pnyx III should now be reassessed in view of the publication by Susan I. Rotroff and John McK. Camp.[16] Working from historical and architectural sources as well as an independent analysis of the ceramic evidence they argue for the period between 346 and 338 BC as the date for the fill of period III.[17] As shown by Lawall, most of the debris constituting the fill should have been deposited before 342.[18]

Unfortunately, as it turns out, fill III of the Athenian Assembly and the Agora deposits D19:1 and J13-14:1 discussed by Grace and regarded as providing "the fixed points" for the transitional and initial dates of the Thasian stamping cannot here provide the required precision. Being the earliest Agora deposits thought to support the initial date before 400 BC, both D19:1 and J13-14:1 proved to contain some material of the early 4th century.[19] Allowing some later dates for the earliest series of the Thasian stamps this fact does not rule out the possibility of their being contemporary with the earlier, late-fifth century material of these deposits.

Black Sea evidence for the initial and transitional dates of the Thasian stamping

The Black Sea material can contribute substantially to this discussion supplying additional arguments in favour of the dates put forward by Grace. Owing to the finds in the Olbian storage-cellar of 1947 and grave 51 of 1912, the Thasian old-style eponyms Labro( ) and Ti( ) (both of Group B) are reliably synchronized with the Herakleian stamps of the earlier fabricant group (EFG) (Hermantos, Euopis, Nikasion, Rhamphias, Archelas, Dionysios, Herakleidas, Eupamon, Eurydamos, Kallias, Nossos, Onasos, Pyronidas, Satyrion, Silanos I and Theogenes) as well as with the two earliest eponyms Orthesilas and Aristokles of the magistrate group I (MG I).[20] According to S.Ju. Monachov both deposits were presumably closed within the second half of the 390s BC.[21] However, in V.I. Kac's most recent chronology of the Herakleian amphora stamping Orthesilas and Aristokles, who are placed at the very beginning of sub-group A, seem to have been active in the early 390s.[22] Correspondingly, the activity of the aforementioned fabricants is assigned to the period between 415 and 400 BC.[23] Even if one assumes the terminal date of the EFG in the middle of the 390s, as suggested newly by Monachov,[24] both of the Thasian eponyms recorded, are likely to be placed closer to the beginning of Group B. Otherwise, following Avram's and Garlan's order of the old-style Thasian eponyms the starting date of the stamping should lie about ten years ahead of the activity of Ti( ).

Allowing for this updating of the Pnyx III chronology and both of the Olbian deposits, the transition to the Thasian new style stamps, and the activity of Kleitos should accordingly be moved close to the date proposed by Grace, i.e. about 340 or the early 330s.[25] Furthermore, Michel Debidour recently argued for placing Kleitos among the eponyms of the old style.[26] This appears to be more in harmony with a new dating of Sinopean stamps from Chersonesos recorded in the fill underlying the theatre. Also the analysis of a deposit from a cistern below the kiln no. 9 in the south-eastern ceramic workshop of Chersonesos leads to the same conclusion. The stamp of Kleitos being the youngest specimen in this assemblage appears among the stamps that date in general from not later than the middle of the 4th century.[27]

In this context the finds from the central area U7 in the settlement of Panskoe I[28] are also helpful. Here two stamps of Kleitos are recorded in the reliably stratified contexts of the so-called horizon B (Fig. 2).[29] Like the fill underlying the Chersonesean theatre, the horizon B of Panskoe I/U7 is devoid of any amphora stamps of Chersonesos, the earliest of which emerge first in the overlying horizon A. The date of horizon B, thus, antedating the start of the Chersonesean stamping, rests mostly on the Herakleian stamps, Attic black-glaze and coin material. The upper sub-horizon of this layer (B_1), which is best represented by an extramural house excavated in 1987,[30] revealed the stamps of the eponyms of MG IV Silanos (with a fabricant Aristokles)[31] and Menoitios (with a fabricant Damophon and a kantharos as an emblem).[32] Both of them





Fig. 2. The Thasian stamps of Kleitos from Panskoe I/U7, horizon B.

are to be found in sub-groups B and C of Kac's MG IV respectively, which are now dated from c. 355 to the beginning of the 330s.[33] Close in time is the lower part of the Chian amphora with a conical toe found in room 117 of the aforementioned house (Fig. 3.1).[34] Fragments of similar toes are associated with one of the stamps of Kleitos found in courtyard 18 of the U7[35] and are datable to about 350 BC by analogy with the amphora from tumulus 26 (1911) in the necropolis of Elizavetovskoe.[36] Indicative also are the upper part of a neck[37]

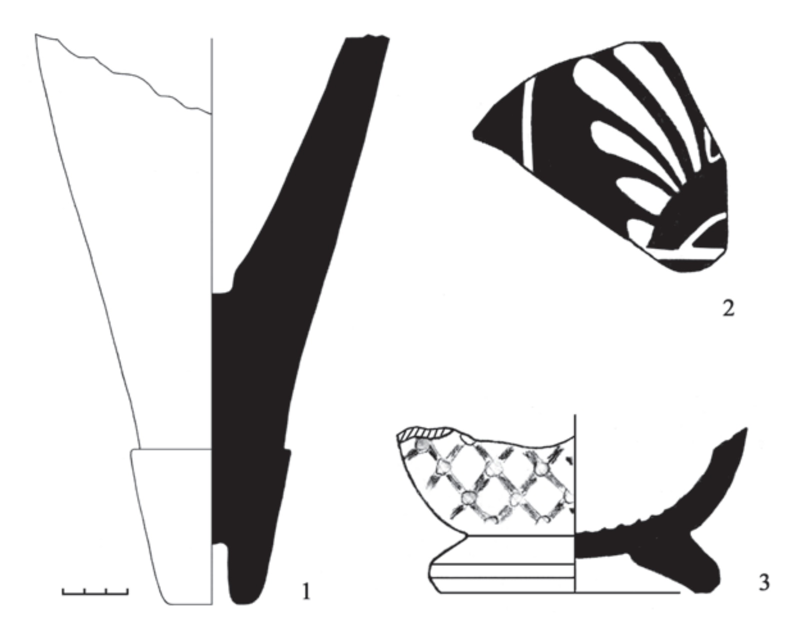


Fig. 3. Panskoe I/U7. Finds from the extramural house excavated in 1987 (sub-horizon B_1): 1) the lower part of the Chian amphora from room 117; 2-3) fragments of the squat lekythoi from room 114.

and massive toes of the Chersonesean amphoras[38] characteristic of Types 1-A-1 and 1-A-2 by Monachov, which precede the stamped specimens.[39]

The black-glazed material unearthed in the aforementioned house excavated in 1987, apart from a few specimens of the earlier period, fits mostly within these same chronological limits. The fragmentary squat lekythos with a red-figured palmette on the front (Fig. 3.2)[40] as well as one with a net pattern on the body (Fig. 3.3),[41] found on the floor of room 114, represent the early variants of these types, providing a date of around 350, as attested by the presence of both types in Olynthos.[42] An Attic skyphos of Corinthian type with a zone of cross-hatching above the foot (cf. *Agora* XII, no. 326) as well as a salt-cellar of *Agora* XII, no. 937 type, which come from the same assemblage are dated to somewhere within a period from 350 to c. 330 or to 325 BC respectively. However, all the shapes mentioned are well attested in a number of graves of Panskoe I necropolis, which date reliably as not later than 340 BC.[43]

The last group of artefacts pertaining to the aforementioned context are the coins. The three Chersonesean specimens found on the floor of room 112 (1 ex.) and in the upper fill of the household pit within the same living unit (2 ex.), all of type Anokhin (1980) 57-59, are clearly associated with the last stage of the house's existence.[44] A similar coin comes from the layer-B floor of room 9 in the eastern corner of the area U7.[45] The type constitutes a half denomination of the larger bronze pieces (with a quadriga on the obverse and a kneeling warrior on the reverse, type: Anokhin (1980) 36-56), which were minted for about 20 years between c. 350 and c. 330[46] and saw even longer circulation.[47] Our coins being marked with the abbreviated names of the officials belong, however, to the earliest issues of the series at the very beginning of this span.[48] Their circulation beyond the period of mintage, by contrast with the large fraction pieces, is not attested. This is quite consistent with their state of preservation, which does not show any traces of their being used over any longer period. Correspondingly, the youngest foreign coin found in layer B dates most likely to the period prior to 344 BC.[49] Thus, the chronology of the coins correlates entirely with that of the remaining part of the assemblage, which in the aggregate permits the dating of the destruction of the house to somewhere in the period from c. 340 to c. 335 BC. Consequently, this supplies a *terminus ante quem* for the horizon B of Panskoe I and the activity of Kleitos.

Finally, there is a body of indirect evidence for an earlier transition to the Thasian new style stamps, which involves the amphora chronologies of the other centres. The first which should be mentioned is a deposit from tumulus 8 of the Čerednikova Mogila barrow group.[50] Here the single Thasian amphora with the new-style eponym Deialkos is associated with the seven Chian amphoras with a conical toe paralleled in the jars of the first half or the middle of the 4th century,[51] one amphora of Mende dated to the 360s,[52] and a series of 23 Herakleian vessels, including 14 stamped ones. All of the




Fig. 4. Bronze coin of Chersonesos (Museum Narodowe, Warsaw, inv.-no. 155927; after a cast).

Herakleian stamps are represented solely by two eponyms Amphitas and Bakchos. They start Kac's Group MG IV and date from about the middle of the 350s.[53] Assuming that transition to the new style stamps in Thasos took place between 340 and 335 BC it makes the amphora with Deialkos, one of the seven first new style eponyms, less distant from the rest of the assemblage, which seems to me more likely.

Indeed, pushing up the chronology of the Thasian stamps implies an earlier start of the Chersonesean stamping, which is, therefore, most probably to be dated somewhere in the period between c. 335 and c. 330 BC. The question arises, though, whether some other observations or a body of independent material other than stamps can verify the new initial date I think, the answer should be positive. The relatively late appearance of the magistrate stamps compared to the local wine jars, the production of which starts about the middle of the 4th century, is likely to be linked to a radical change in the city's political system and an introduction of the democratic institutions.[54] This process has also resulted in the appearance of the magistrate names on the local coins (Fig. 4)[55] that replaced a large issue where each series was marked alphabetically with a single letter. Based on independent criteria these new bronze issues date to the 330s BC[56] and with some caution may be considered to be contemporary with the earliest local stamps.

Terminal date of the Chersonesean stamping

Historical "fixed" point

Coming back to the lower chronological limit of the stamps of Chersonesos we may observe that in Kac's scheme its occurrence turns out to be closely associated with the 80s of the 2nd century BC, mostly due to the desire to link it to the well-known alliance between Chersonesos and Pharnakes (*IOSPE* I^2, 402) and to the belief that the final destruction of the Chersonesean *chora* took place at that time. In order to set the "fixed points" both for the beginning and the end of stamping, which mark a period of about 150 years, he was forced to reserve more room for each chronological group in the hope that more names would come to light in addition to the 127 different officials hitherto recorded. The gap will be even more ample if we accept the earlier date for Kleitos and accordingly for the earliest Chersonesean stamps. Moreover, the "anchoring point" for the end date does not seem to be evident either, since 179 BC sug-

gested by the *editor princeps* for the Pharnakes' decree and accepted by Kac proves to be the most doubtful of the dates proposed so far. Without going into details of the problem considered thoroughly by Jakob M. Højte,[57] it has to be underscored that 155 BC proposed by S.M. Burstein and C. McGing for the alliance with Pharnakes and accepted later by W. Leschhorn and others[58] is more likely to be correct. This will make the gap even wider.

Still, Kac's suggestion of assigning the final destruction of the Chersonesos' "home" *chora* to the late 190s or early 180s BC causes further confusion. So, in the Pharnakes' decree this territory (ἡ κρατουμένη ὑπὸ Χερσονησιτῶν χώρα), in spite of very explicit expression of the pressure on the part of the neighbouring barbarians, is still meant as one, which has to be defended.

Archaeological evidence: the Rhodian stamps

Considering the stamp assemblages from the farmhouses on the Herakleian peninsula, where the latest stamps of Chersonesos are found together with amphora handles from Sinope bearing the names of the officials of the chronological groups 5 (late) and 6, we encounter another problem, namely the one of their correlation with the chronology of the Rhodian stamps. Thus, among the material from the farmhouses in the vicinity of Chersonesos, the stamp of Timourrhodos, a Rhodian eponym of Group 4 is recorded.[59] M.I. Zolotarev and E.Ja. Turovskij mention another Rhodian stamp of the same chronological group from farmhouse 26.[60] Here mention should also be made of the Chersonesean settlement of Kizil Jar, situated south of Eupatoria on the Crimean west coast. Along with the stamp of Chersonesos of Kac' Group 2Г it revealed the Rhodian stamp of the eponym Eudamos.[61] More material has been reported from the excavations in Kalos Limen. Here, V.A. Kutajsov and V.B. Užencev record the stamps of Pausanias III and Pythogenes, the eponyms of Group 4, as originating from the destruction layer of the citadel.[62] Another Rhodian stamp with the name of Gorgon is connected with a destruction of living-unit 2. This destruction layer yielded also a Chersonesean coin (type Anokhin 168-169) dated independently by Anokhin to 160-150 BC.[63] The context of one more stamp of Rhodos found at the site and bearing the name of Aristomachos I remains unspecified.[64]

Here we should also take note of the deposit from a well in the northern area of Chersonesos where the local amphora marked by Simaios, son of Eurydamos, the magistrate of Group 3Б, as well as the Sinopean wine jar with a stamp of Group 5 with the name of Hikesios, son of Bakchios, are associated with Rhodian amphora handles marked with the stamps of Group 4. The last-named are represented by the eponyms Heragoras and Gorgon as well as by the fabricant Bromios. In his attempt to resolve this chronological discrepancy Kac, who also refers to this deposit, suggests pushing back the Grace chronology of the Rhodian Group 4 by c. 10-15 years, which would be enough to make it fit his own system. Yet, it seems to be a questionable

method. Furthermore, Kac's book appeared too early to take account of G. Finkielsztejn's research (2001), which independently arrived at much younger dates. This downdating of the Rhodian sequence is entirely consistent with the lowering the closing date of the Pergamon Deposit to the late 160s or early 150s suggested recently by Lawall.[65] Finkielsztejn places the aforementioned eponyms Timourhodos, Aristomachos I, Heragoras, Gorgon and Pausanias III closely together in the brief period between 159 and 152 BC. They are followed by Eudamos and Pythogenes, which are assigned to about 150 BC.[66] Hence, it is evident that these dates are also much more in line with the new date suggested for the alliance between Chersonesos and Pharnakes.

Of special note here is a collection of stamps from the settlement of Bol'šoj Kastel'. Here along with the Rhodian stamps of groups 2 and 3 three stamps of the chronological group 5 are recorded.[67] The latter are represented by the eponymous stamps of Archibios, Aischinas, and Archinos. Finkielsztejn ascribes these officials to period 5c dating them between c. 120 and c. 115. This dating just like the one proposed earlier by V. Grace and Ju.S. Badaljanc creates, however, a considerable gap in the remainder of the stamp collection, which seemingly dates from no later than the middle of this century. This fact forced Monachov to question the dating of the corresponding Rhodian stamps, and, finally, to suggest its radical pushing up by c. forty years.[68] However, it would be an oversimplification to consider all these stamps a homogeneous assemblage linked up with the Chersonesean presence. On the contrary, the stamps of period 5c seem to be a clear evidence of habitation on a small scale after the site was captured by the Scythians. This also squares with a large quantity of the handmade ware found here, which shapes and fabric find the closest parallel in the late Scythian pottery.[69]

It appears, however, that Bol'šoj Kastel' is not the only of the former Chersonesean possessions presenting such a late body of material. Among the first examples to be referred to are Athenian New Style tetradrachms as well as one of Thasos found at two sites in the western Crimea.[70] Thus one Athenian coin reported from Kerkinitis bears the names Dionysi( ), Dionysi( ), and Metro( ), and is dated by M. Thompson to 151/150 BC (Issue 46).[71] Another Athenian specimen of New Style Issue 57 with the names of Eumelos, Kaliphon, and Hera( ) assignable according to the same author to 140/139 BC as well as a tetradrachm of Thasos come from the settlement of Terekly-Konrat, which until the 2nd century BC formed part of the Chersonesean *chora*. As assumed by Golenko and Ščeglov the coins suggest the period when both sites were already taken over by the Scythians. Meanwhile, soon after its appearance Thompson's chronology was debated by a number of scholars, mostly arguing for some younger initial date of the coinage (in the 160s BC).[72] Thus, accepting 164/163 BC proposed by Boehringer[73] as an initial date of the New Style series, we shall arrive at 119/118 and 108/107 BC for our coins respectively. Their connection with a later Scythian population of the sites seems unlikely, for extremely few coin finds associated with the Scythian settlements imply

the non-monetary character of their economy.[74] Therefore, the finds of the New Style coins are more likely to be linked to the Diophantos campaigns of 110-108 BC,[75] which perhaps could lead to the subsequent revival of some of the settlements of the former Chersonesean *chora*.[76]

Numismatic data

Along with the aforementioned Chersonesean coin from the destruction layer at Kalos Limen there is another piece of evidence, which argues for a date later than 179 BC as a terminal point of the Chersonesean stamping. This is the Chersonesean issue of the pseudo-Lysimachos type, first attributed by Henry Seyrig.[77] Both of the specimens known until now originate from the Ordu (Kotyora) hoard of 1970 published by Christof Boehringer.[78] The date he suggests, about 150 BC, for the burial of the hoard[79] seems very likely, and so far there are no reasons this should be reconsidered.[80] Struck by one and the same die pair the Chersonesean coins show very little if any traces of having been in circulation, proving, therefore, their having been issued shortly before this date. Taking into account the tetradrachms of Demetrios I of Syria – the youngest reliably dated coins of the hoard, which were minted in 158 of the Seleucid era (= 155/154 BC) and also show "leichte Umlaufspuren"– it seems reasonable to assign the Chersonesean specimens to the period around 155-150 BC as well.[81] The fact that Chersonesos undertook the issuing of large silver coins at that very point can hardly be reconciled with the traditional belief that the *polis* had already lost its *chora* by the early 180s BC – a loss which beyond question must have had disastrous consequences for the city's economy.

In my view, the facts scrutinized above do not substantiate Kac's claim. Therefore, the devastation of the *chora* close to the city as well as the destruction of Kalos Limen in western Crimea could apparently have taken place fairly soon after the treaty was published, i.e. about 150 BC or at the very beginning of the next decade.

The relative and absolute chronology of the stamping: proposed adjustments

Summing up, I would suggest a number of adjustments to the extant amphora stamps chronology of Chersonesos, which are summarized in Table 2 below. Apart from the absolute dates where c. 330 and c. 150 BC were taken as the points of departure some changes have involved an arrangement of the magistrates within two out of the three chronological groups.

Taking into account the extreme palaeographical divergence in the stamps of Pasion assigned to sub-group 1B it seems more likely that we are dealing with two homonymous officials rather than just two different hands of stamp engravers. Whilst four of the dies, namely 1-93, 5-8, show a steady employment

of cursive shapes, the "orthodox" lettering of four others (1-93, 1-4) resembles rather the earliest stamps of the city. The genitive form ΑΣΤΥΝΟΜΟ with a long O for OY attested in the three out of four dies of the latter group (1-93, 1-3) also points towards an earlier date for Pasion I. As proved by Attic official inscriptions, this orthography, quite common in the period from 400 to 350 BC, becomes very rare towards the end of the century. According to L. Threatte's data, the latest inscription showing this spelling dates to 302/301 BC.[82] Furthermore, only this group of Pasion's stamps appears together with fabricant names applied by an additional stamp. This trait, distinctive of the stamps of sub-group 1Б, necessitates the assignment of Pasion I to this same period. For a similar reason, as well as working from the prosopographical evidence Choreios, the magistrate allocated previously to sub-group 1B, was moved to the foregoing sub-group.[83]

Some re-arranging of the magistrates has also been the case with Group 2. Thus, included in sub-group 2Г was one formerly unknown official, Nanon, son of Symmachos, attested by a type-2 stamp on the handle of a jug or a small amphora from the settlement of Beljaus.[84] Nikeas, son of Herakleios, represented by the type-2 stamps and put by Kac into sub-group 2B has been moved to the foregoing sub-group. The typology and palaeography of his stamps invariably with a four-barred sigma resemble closely the stamps of Matris, son of Agasikles, a magistrate of sub-group 2Б. Along with Nikeas, son of Herogeitos, and Istron, son of Apollonidas, Nikeas, son of Herakleios, seems to be among the last magistrates recorded in the south-eastern ceramic workshop of Chersonesos.[85] The fact that all the farmhouses in the closest vicinity of the city perished about 270 BC makes the simultaneous destruction of the workshops situated just outside the city walls more likely than its continuous existence for another 10 years as suggested by Kac.[86] Moreover, pushing Nikeas, son of Herakleios, up makes it possible to associate his father with a tesonymous magistrate of Group 1Б, who was active in the late fourth century.

On the other hand, Eumelos, son of Apollonios, Lykon, son of Apollonios, and Matrodoros, son of Lysippos, magistrates of Kac's sub-group 2Б, have been moved to the following sub-group 2B. Previous ascribing of them to sub-group 2Б was prompted solely by the fact that the stamps of these officials are known in a relatively large number of dies (Lykon – 3, Eumelos – 4, Matrodoros – 3), a feature thought to be more characteristic of the stamps of the earlier period.[87] Arguing for an earlier date Kac claims that one stamp of Matrodoros is attested in farmhouse 10 on the Herakleian peninsula, where it is associated supposedly with building period 2. However, as it turns out, the findspot of this stamp supports rather its downdating. In fact, farmhouse 10 does not belong to the closed contexts, and continued to exist even in the first half of the second century BC.[88] According to the excavation report the fragmentary amphora with the stamp of Matrodoros was found in the courtyard just under the pavement, the construction of which both Kruglikova and

Saprykin relate to the final phase of the house's existence (building period 4) dated widely within the entire 2nd century BC.[89] Thus, the amphora with Matrodoros might well belong to the last third of the third century. This coincides well with the fact that stylistically these stamps show the closest resemblance to the stamps of the sub-group-2B magistrate Kallistratos, son of Kallistratos.[90] Moreover, neither Matrodoros nor Eumelos and Lykon are attested in the assemblages listed in Table 2.

The number of the dies known cannot be interpreted as a contra-indication of their later date either, as suggested by the stamps of the group-2B magistrate Dioskouridas, son of Theodoros, known from four different dies.[91] In contrast, the stamps of Eumelos, like the ones of Matrodoros and Lykon, show a consistent use of a lunate sigma, and, what is more important, an omega of a cursive shape in die 1-45, 2 – a pattern not attested otherwise in Group 2, and which is distinctive for the stamps of Group 3.[92] Finally, Eumelos and Lykon were probably brothers. The stamps of Eumelos's son Apollonios represented like the stamps of Eumelos himself, by Type 2 only are placed by Kac in sub-group 2Γ. If his arrangement of the magistrates is maintained, a supposed break after sub-group 2Б will create a gap of more than 60 years between these two officials, which also provides an argument for moving Eumelos into sub-group 2B.

Similarly, Artemidoros, son of Pasiadas, the magistrate of Kac's sub-group 2Б, should be located closer to, or even before, his brother Apollonios allocated to sub-group 2A. As attested by *IOSPE* I^2, 414, in the late 4th or the early 3rd century BC their farther Pasiadas, son of Artemidoros, exercised the duties of the city's eponym official (*basileus*) and the priest of Parthenos. Allowing for the patronymic of Pasiadas, the *astynomos* Artemidoros is very likely to be the oldest of his sons.[93]

CONCLUSION

Thus, in view of our reconsideration of the "anchoring points" of the Chersonesean chronology the entire duration of the stamped wine jar production probably embraced a period of over 180 years. Even if the boldest expectations that further fieldwork will reveal new names of the local magistrates are borne out, the gap of about 50 years still remains too big to permit an uninterrupted sequence of the chronological groups. By contrast, there are good reasons to propose a rather long break in the production during the third century BC. The second and the third quarters of the 3rd century BC are known as a period of severe economic decline when the city was totally devoid of its *chora*.[94] About 270 BC, all the settlements of the distant territory of the *polis* including Panskoe, Meževodnoe, Čajka, the farmhouse by Vetrenaja Bay, suddenly ceased to exist as a result of a barbarian invasion.[95] Quite probably, Kerkinitis and Kalos Limen, the smaller poleis of the western Crimea,

also suffered the same destruction.[96] The recent archaeological explorations as well as a reassessment of the material of the previous excavations on the Herakleian peninsula – the main area of Chersonesean wine production – have proved that the farmhouses in the city's vicinity experienced the same fate by the beginning of the second third of the 3rd century.[97] The coin hoards found in this particular part of the *chora*, the owners of which did not return for their treasures, provide further evidence of it.[98] Even with the boldest imagination it is difficult to suppose that under such conditions Chersonesos was able to produce wine uninterruptedly and on the same scale. It would be much more natural to assume that due to the withdrawing of the rural population and the emptying of the vineyards in the *chora* Chersonesos did not produce any wine for at least several decades.

The situation changed only in the last third of the 3rd century when stabilized relations with the Scythians allowed the *polis* once again to re-colonize both the distant and the nearest *chora* providing possibilities for the revival of the Chersonesean wine production.

Table 2.

Kac's chronological groups	Suggested chronology (Stolba)	Nos. in Kac's catalogue	Officials	Assemblages										
				Panskoe I[99]	Majak[100]	Farmhouse 25[101]	Elizavetovskoe[102]	Ceramic workshop[103]	Nikonion[104]	Pesčanka[105]	Farmhouse 26[106]	Novo-Fedorovka[107]	Zapadno-Donuzlavskoe[108]	Farmhouse 46[109]
1A (325-315)	c. 330-322	10	ΑΝΤΙΒΙΩΝ	+		+	+	+			+			+
		15	ΑΠΟΛΛΩΝΙΔΑΣ I	+			+		+	+			+	
		32	ΒΑΘΥΛΛΟΣ	+	+	+	+	+	+				+	
		44	ΕΥΚΛΕΙΔΑΣ	+		+				+		+		
		57	ΗΡΟΝΙΚΟΣ			+					+		+	+
		68	ΚΡΑΤΩΝ	+		+			+		+		+	+
		112	ΣΩΠΟΛΙΣ	+				+	+		+	+		
		116	ΣΩΤΑΔΑΣ			+		+					+	
1Б (315-300)	c. 321-304	7	ΑΙΣΧΙΝΑΣ			+	+	+					+	
		9	ΑΛΕΞΑΝΔΡΟΣ	+	+	+					+	+		
		12	ΑΠΟΛΛΑΘΕΟΣ			+	+	+	+		+	+	+	
		20	ΑΠΟΛΛΩΝΙΟΣ	+		+	+	+	+		+	+	+	
		30	ΑΡΧΑΝΔΡΟΣ				+	+			+		+	
		34	ΔΑΜΟΚΛΗΣ						+	+				+
		47/48	ΗΡΑΚΛΕΙΟΣ I, II	+	+	+		+	+		+	+	+	+
		52	ΗΡΟΓΕΙΤΟΣ								+		+	
		58	ΗΡΟΞΕΝΟΣ		+			+			+	+	+	
		60	ΘΕΟΓΕΝΗΣ				+		+					
		74	ΜΑΤΡΙΣ			+		+			+	+	+	+
		80	ΝΑΝΩΝ			+	+	+	+	+	+	+	+	+
		88	ΞΑΝΘΟΣ	+	+		+	+			+		+	
		-	ΠΑΣΙΩΝ I **(Kac: 1B)**			?	?	+						
		109	ΣΥΡΙΣΚΟΣ			+								
		110	ΣΩΚΡΙΤΟΣ	+		+	+				+	+	+	
		125	ΧΟΡΕΙΟΣ **(Kac: 1B)**				+						+	

1B (300-285)	c. 303-290	2	ΑΓΑΣΙΚΛΗΣ		+	+		+						+
		3	ΑΘΑΝΑΙΟΣ										+	
		16	ΑΠΟΛΛΩΝΙΔΑΣ II				+							
		35	ΔΑΜΟΤΕΛΗΣ					+		+		+	+	
		40	ΔΙΟΣΚΟΥΡΙΔΑΣ	+	+	+	+		+		+	+	+	+
		51	ΗΡΕΑΣ	+	+	+							+	+
		54	ΗΡΟΔΟΤΟΣ	+	+	+						+	+	
		63	ΙΣΤΡΩΝ		+	+		+				+		
		90	ΞΕΝΩΝ			+	+					+		
		93	ΠΑΣΙΩΝ II			?	?					+		
		95	ΠΟΛΥΣΤΡΑΤΟΣ			+			+		+		+	
		102	ΣΙΛΑΝΟΣ			+						+	+	
		118	ΤΕΛΑΜΩΝ											
		121	ΦΙΛΙΠΠΟΣ	+	+	+			+		+		+	
2A (285-272)	c. 289-275	1	ΑΓΑΘΩΝ ΓΝΑΘΩΝΟΣ		+			+			+		+	+
		6	ΑΘΑΝΟΔΩΡΟΣ ΝΙΚΕΑ	+	+			+			+			
		11	ΑΠΟΛΛΑ ΧΟΡΕΙΟΥ	+	+			+			+		+	
		25	ΑΠΟΛΛΩΝΙΟΣ ΠΑΣΙΑΔΑ **(Кас: 2Б)**	+	+				+				+	
		29	ΑΡΤΕΜΙΔΩΡΟΣ ΠΑΣΙΑΔΑ									+		
		55	ΗΡΟΚΑΣ ΗΡΟΤΙΜΟΥ		+	+		+			+		+	
		56	ΗΡΟΚΡΑΤΗΣ ΝΕΥΜΗΝΙΟΥ	+	+	+	+	+	+		+	+	+	+
		61	ΘΕΩΓΕΝΗΣ ΑΠΟΛΛΩΝΙΔΑ		+			+			+			
		67	ΚΟΤΥΤΙΩΝ ΑΡΙΣΤΩΝΟΣ	+	+	+						+		+
		79	ΜΗΝΙΣ ΔΑΜΟΚΛΕΟΣ			+				+	+			
		81	ΝΕΥΜΗΝΙΟΣ ΦΙΛΙΣΤΙΟΥ											+
		99	ΠΡΥΤΑΝΙΣ ΑΡΙΣΤΩΝΟΣ	+	+									+
		122	ΦΟΡΜΙΩΝ ΑΙΣΧΙΝΑ										+	
		123	ΦΟΡΜΙΩΝ ΑΠΟΛΛΑ	+	+		+					+	+	
2Б (272-262)	c. 274-270	64	ΙΣΤΡΩΝ ΑΠΟΛΛΩΝΙΔΑ					+						
		75	ΜΑΤΡΙΣ ΑΓΑΣΙΚΛΕΙΟΣ			+			+				+	
		85	ΝΙΚΕΑΣ ΗΡΑΚΛΕΙΟΥ **(Кас: 2В)**					+						
		86	ΝΙΚΕΑΣ ΗΡΟΓΕΙΤΟΥ				+	+						
		106	ΣΙΜΟΣ ΔΑΜΑΤΡΙΟΥ					+		+	+		+	
	G A P													

2B (262-237)	c. 230-206	18	ΑΠΟΛΛΩΝΙΔΑΣ ΙΣΤΡΩΝΟΣ											
		21	ΑΠΟΛΛΩΝΙΟΣ ΑΠΟΛΛΩΝΙΟΥ											
		23	ΑΠΟΛΛΩΝΙΟΣ ΘΕΟΦΑΝΕΙΟΣ											
		26	ΑΠΟΛΛΩΝΙΟΣ ΣΩΠΟΛΙΟΣ											
		27	ΑΠΟΛΛΩΝΙΟΣ [...]											
		38	ΔΙΟΝΥΣΙΟΣ ΑΘΑΝΟΔΩΡΟΥ											
		41	ΔΙΟΣΚΟΥΡΙΔΑΣ ΑΠΟΛΛΑ											
		42	ΔΙΟΣΚΟΥΡΙΔΑΣ ΘΕΟΔΩΡΟΥ											
		45	ΕΥΜΗΛΟΣ ΑΠΟΛΛΩΝΙΟΥ **(Кас: 2Б)**											
		46	ΕΥΦΡΟΝΙΟΣ ΦΙΛΑΘΑΝΑΙΟΥ											
		53	ΗΡΟΓΕΙΤΟΣ ΚΑΛΛΙΑΔΑ											
		59	ΗΡΟΞΕΝΟΣ ΑΛΚΙΝΟΥ											
		66	ΚΑΛΛΙΣΤΡΑΤΟΣ ΚΑΛΛΙΣΤΡΑΤΟΥ							+				
		71	ΛΥΚΩΝ ΑΠΟΛΛΩΝΙΟΥ **(Кас: 2Б)**											
		78	ΜΑΤΡΟΔΩΡΟΣ ΛΥΣΙΠΠΟΥ **(Кас: 2Б)**											
		82	ΝΕΥΠΟΛΙΣ ΜΕΝΕΣΤΡΑΤΟΥ											
		87	ΝΙΚΕΑΣ ΝΙΚΕΑ											
		96	ΠΟΣΕΙΔΩΝΙΟΣ ΔΙΟΣΚΟΥΡΙΔΑ											
		98	ΠΡΟΜΑΘΙΩΝ ΘΑΣΙΟΥ											
		100	ΠΡΥΤΑΝΙΣ ΘΕΟΔΩΡΟΥ											
		113	ΣΩΠΟΛΙΣ ΠΑΣΙΩΝΟΣ											
		127	[...] ΤΕΛΑΜΩΝΟΣ											
2Γ (237-230)	c. 205-196	22	ΑΠΟΛΛΩΝΙΟΣ ΕΥΜΗΛΟΥ							+				
		36	ΔΑΜΟΤΕΛΗΣ ΔΙΑΓΟΡΑ											
		37	ΔΕΛΦΟΣ ΙΣΤΡΩΝΟΣ											
		65	ΚΑΛΛΙΑΔΑΣ ΔΙΟΝΥΣΙΟΥ											
		73	ΜΑΡΩΝ ΒΑΒΩΝΟΣ							+				
		-	ΝΑΝΩΝ ΣΥΜΜΑΧΟΥ											
		107	ΣΚΥΘΑΣ ΣΩΠΟΛΙΟΣ											
		111	ΣΩΚΡΙΤΟΣ ΑΡΤΕΜΙΔΩΡΟΥ											

3A (230-215)	c. 195-180	4	ΑΘΑΝΟΔΩΡΟΣ ΔΙΟΝΥΣΙΟΥ							+				
		14	ΑΠΟΛΛΩ[...] ΗΡΟΓΕΙΤΟΥ											
		17	ΑΠΟΛΛΩΝΙΔΑΣ ΑΠΟΛΛΩΝΙΟΥ						+	+				
		24	ΑΠΟΛΛΩΝΙΟΣ ΠΑΡΜΙΟΣ											
		33	ΒΟΛΛΙΩΝ ΝΙΚΕΑ											
		62	ΘΕΟΔΩΡΟΣ ΠΡΥΤΑΝΙΟΣ											
		70	ΛΑΓΟΡΙΝΟΣ ΠΑΡΘΕΝΟΚΛΕΟΣ											
		77	ΜΑΤΡΙΣ ΗΡΟΞΕΝΟΥ											
		83	ΝΙΚΑΝΩΡ ΣΑΤΥΡΙΝΟΥ											
		89	ΞΕΝΟΚΛΗΣ ΑΠΟΛΛΑ											
		91	ΠΑΣΙΑΔΑΣ ΗΡΟΔΟΤΟΥ											
		103	ΣΙΜΑΙΟΣ ΑΠΟΛΛΟΔΩΡΟΥ											
		117	ΣΩΤΗΡΙΟΣ ΔΙΟΝΥΣΙΟΥ											
		119	ΥΜΝΟΣ ΣΚΥΘΑ											
		126	ΧΟΡΕΙΟΣ ΛΥΚΩΝΟΣ											
3Б (215-200)	c. 179-166	19	ΑΠΟΛΛΩΝΙΔΑΣ ΣΙΜΑΙΟΥ											
		31	ΒΑΒΩΝ ΒΑΒΩΝΟΣ											
		39	ΔΙΟΝΥΣΙΟΣ ΘΑΓΩΝΟΣ											
		43	ΔΙΟΣΚΟΥΡΙΔΑΣ ΠΥΘΟΔΩΡΟΥ											
		49	ΗΡΑΚΛΕΙΟΣ ΗΡΑΚΛΕΙΟΥ											
		50	ΗΡΑΚΛΕΙΟΣ ΦΟΡΜΙΩΝΟΣ											
		72	ΛΥΚΩΝ ΧΟΡΕΙΟΥ											
		76	ΜΑΤΡΙΣ ΑΠΟΛΛΩΝΙΔΑ											
		104	ΣΙΜΑΙΟΣ ΕΥΡΥΔΑΜΟΥ											
		120	ΥΜΝΟΣ [...]ΑΛΑΜΟΥ											
		124	ΦΟΡΜΙΩΝ ΠΥΘΙΩΝΟΣ											
3B (200-185)	c. 165-150	5	ΑΘΑΝΟΔΩΡΟΣ ΕΥΡΥΔΑΜΟΥ											
		8	ΑΙΣΧΙΝΑΣ ΞΕΝΟΚΛΕΙΟΣ											
		13	ΑΠΟΛΛΟΦΑΝΗΣ ΗΡΩΙΔΑ											
		28	ΑΡΙΣΤΩΝ ΧΟΡΕΙΟΥ											
		69	ΛΑΓΟΡΙΝΟΣ ΛΑΓΟΡΙΝΟΥ											
		84	ΝΙΚΑΣΙΤΕΙΜΟΣ ΠΥΘΟ[...]											
		92	ΠΑΣΙΧΟΣ ΧΑΡΜΙΠΠΟΥ											
		94	ΠΟΛΥΚΤΩΡ ΜΗΝΙΟΣ											
		97	ΠΡΟΜΑΘΙΩΝ ΕΣΕΚΡΑΤΕΟΣ											
		101	ΠΥΘΟΔΟΤΟΣ ΔΑΜΟΚΛΕΟΣ											
		105	ΣΙΜΑΙΟΣ ΠΑΡΘΕΝΟΚΛΕΟΣ											
		108	ΣΥΜΜΑΧΟΣ ΣΥΜΜΑΧΟΥ											
		114	ΣΩΠΟΛΙΣ ΣΩΠΟΛΙΟΣ											
		115	ΣΩΠΟΛΙΣ ΥΜΝΟΥ											

Notes

1 Kac 1994. On the previous chronologies of the Chersonesean amphora stamps, see Achmerov 1949; Borisova 1974; Michlin 1979.
2 Solomonik & Nikolaenko 1990 = Solomonik & Nikolaenko 1995.
3 Vinogradov & Ščeglov 1990, 335.
4 Kac 1994, 38-39.
5 Kac 1985, 92.
6 Kac 1985, 100.
7 Michlin 1979, 147; Kolesnikov 1985b, 74;
8 Kolesnikov 1985a, 13.
9 Kolesnikov 1985b, 69.
10 Conovici, Avram & Boenaru-Bordea 1992, 233, who place Group 2 in the period 344-310 BC. In the more recent publication on the Sinopean Stamps from Istros N. Conovici arrives at a later date putting this group between 333 and 296 (Conovici 1998, 51). Following his sequence of the magistrates the *astynomoi* Antimachos, Epielpos, Poseidonios, Gyrittos and Mantitheos ascribed to subgroups IIa, IIb and IIc were in office in 327, 321, 319, 316 and 312 respectively (Conovici 1998, 33). The tile stamp of Thearion dated by the same scholar to about 310 BC appears to be the youngest of Sinopean officials recorded in the fill underlying the Chersonesean theatre. Yet, such lower dates create a considerable gap in the remaining part of the assemblage (stamps of Thasos, absence of the Chersonesean stamps) suggesting rather a change in his arrangement of the officials (their moving to the beginning of the group) or pushing the entire group 2 up closer to the dates suggested by N. Fedoseev (1994, 189; 1999).
11 Fedoseev 1999.
12 Grace 1956, 123. This transitional date also was accepted by M. Debidour (1986, 313).
13 Garlan 1990, 479-483; 1999a, 48-54. On the probable reason for the reform, see Kac 1996.
14 Avram 1996, 24.
15 Lawall 2001a, 534-535. See also his contribution to this volume.
16 Rotroff & Camp 1996. The construction of Pnyx III during the Eubolos' time in power in the 340s was proposed already by Thompson 1982, 144-145.
17 Rotroff & Camp 1996, 275. Cf. Camp 1996, 45; Forsén 1996, 55. Compare, however, Rotroff 1996, 35-40, where she still favored the Lykourgan dating for the fill of Pnyx III.
18 See his contribution to this volume.
19 See M. Lawall's contribution to this volume.
20 On these deposits, see Knipovič 1949b, 26-27; Lejpuns'ka 1971, 65; Brašinskij 1965, 21-23; 1984, 135-136, 205; Monachov 1999a, 194-201, 203-205.
21 Monachov 1999a, 197, 205. In fact, Garlan (1999a, 45) also takes account of this deposit, in the dating of which he follows Brašinskij (1984a, 135: 380-370 BC).
22 Kac 2003a, 267, 275. The deposits from Panskoe I/U7 and Elizavetovskoe, which Kac relies on as substantiating the terminal date of the Heraklein stamping about 275 BC, should be treated with caution. Taking into account the multiple examples from Panskoe I/building U6 (see Kac et al. 2002, 108) the secondary use of the Herakleian amphoras at both of these sites can certainly not be excluded. Cf. also

Stolba 2003, 292. For a possible fixed point for the termination of the magisterial stamping, see Stolba 2003, 291.

23 Kac 1997a, 216; 1997b, 45; 2003a, 272, 275.

24 Monachov 2003, 124.

25 Cf. Debidour 1986, 330, who suggests c. 345-335 BC for the entire group I of the new style stamps.

26 Debidour 1999, 84-89.

27 The deposit remains unpublished. It is briefly mentioned in Borisova 1958, 152 with an erroneous date for the fill of the cistern: the 4th to the mid of the 3rd century BC. More detailed information is available in the excavation report: Borisova 1957, 6-7. See also Kac 1994, 71.

28 For the general characteristic of the amphora assemblage from Panskoe I/U7, see now Monachov 1999a, 509-521.

29 The first of the stamps with a retrograde *rho* comes from the fill of the drain in the courtyard 18 (find list 67/125). The second (find list 68/110) was found in room A-8 and has a *my* in the field. The last find was accompanied by the two Herakleian stamps of Archelas (early fabricant group) and Kyros (an eponym of the end of MG II of Kac's system datable to c. 375 BC). One more Thasian amphora handle with a name of Kleitos supplemented by a *delta* comes from a chance find in 1973 (find list 108/4). Monachov (1999a, 518) mentions the two last stamps only.

30 On the context of the house of 1987, see in detail Stolba 1991, 78-84.

31 From sector A-9 in the eastern part of the central area U7, find list 70/29.

32 From extramural house of 1989, room 114, find list 176/23; Stolba 1991, 83.

33 Kac 2003a, 276.

34 Find list 179/10b.

35 Find list 67/129. From the same context comes one Sinopean amphora stamp (find list 67/117 [293]) with the names of the *astynomos* Nikomedes and the fabricant Archiptolemos (Grakov's group I), who was also active at the beginning of group II. Fedoseev (1999, 34) puts the activity of Nikomedes around 365 BC, whilst according to Conovici (1998, 25, 51) his activity should be dated to approximately 345/340 BC.

36 Monachov 1999a, 339, pl. 146.3.

37 Find list 174/9.

38 Find list 67/122.

39 See Monachov 1989a, 46-47.

40 Find list 176/82.

41 Find list 181/42. In the find list the specimen is erroneously recorded among the material from room 119. According to the excavation notebook it was found in room 114.

42 See Robinson 1933, 175-179, nos. 408-463, pls. 141-144, especially nos. 408 and 420 (with a palmette decoration). Cf. Ivanov 1963, pl. 49, no. 70. For lekythoi with a net pattern, see Robinson 1933, 181-185, pls. 146-147. Cf. Ivanov 1963, pls. 53-54.

43 E.g.: Tumulus 48, grave M1 (Monachov & Rogov 1990b, 138, pl. 10: c. 360-340 BC): squat lekythos with a net pattern, Corinthian-type skyphos with a zone of cross-hatching, Attic moulded-rim kantharos similar to *Agora* XII, no. 698; Thasian bi-conical amphora of Type I-B; grave M04 (Monachov & Rogov 1990b, 138, pl. 4: c. 400-380 BC): amphora of Murighiol type, squat lekythos with a net pattern,

thick-walled cup-skyphos with a red-figured decoration attributed to the Jena-painter. See also Rogov & Tunkina 1998, 159-175.

44 One of the coins bears an abbreviation ΣA. On the two others the name is not preserved. The lower fill of the pit also revealed an earlier cast coin of Istros. On this find, see Gilevič, Stolba & Ščeglov 1991, 22-23 (note erroneous dating of the context).

45 The same room also revealed a small bronze coin with a lion's head on the obverse and a star on the reverse (type: Anokhin 27-32). The specimen comes from the fill above the layer-B floor and dates to about 350 BC. For dating, see Anokhin 1980, 15-16, 129.

46 Zograf 1927, 379-397; following him Anokhin 1980, 18, 38-39; Gilevič 1987, 55. Cf. Saprykin 1980, 56, who assumes even an earlier date: 362-350 BC. The lowering of the "orthodox" date of the issue proposed recently by E.Ja. Turovskij (1997, 14) lacks any sufficient argumentation. Cf. review by Kovalenko 1999, 202-210, especially p. 205.

47 Gilevič 1987, 55.

48 Anokhin 1980, 16-17, 38; Stolba 1990, 145.

49 According to Gilevič (1989, 19-20), the poorly preserved coin belongs to one of the Thessalian mints (Larissa?). For the chronology of the bronze coinage of Thessaly, see Rogers 1932. Cf. Martin 1985, 43.

50 Polin 1994, 55-57; Monachov 1999a, 340-348.

51 Monachov 1999a, 341, 344, pl. 149.9-10; Monachov & Rogov 1990a, 138-139, pl. 5.36-36.

52 Monachov 1999a, 345-346, pl. 150.1.

53 Kac 2003a, 276.

54 Stolba 1990, 151.

55 Type: Anokhin 1980, nos. 60-67.

56 Anokhin 1980, 19.

57 J.M. Højte, The Date of the Alliance between Chersonesos and Pharnakes (*IOSPE* I^2, 402) and its Implications (this volume).

58 Leschhorn 1993, 79-82. See also Ehrhardt 1987, 107; Sherk 1991, 239 as well as my comment in Tochtas'ev 1997, 363 note 1.

59 Kac 1994, 74.

60 Zolotarev & Turovskij 1990, 80.

61 Lancov 1989, 82-83.

62 Kutajsov & Užencev 1997, 80-81.

63 Kutajsov & Užencev 1991, 90; Užencev 1994, 183. For the date of the coin, see Anokhin 1980, 142.

64 Užencev 1997, 118. According to Zajcev (2003, 13, 18) the Chersonesean stamps of Groups 3Б and 3В are recorded in the layers of Scythian Neapolis, which reveal also the Rhodian stamps of periods 4 and 5 and date accordingly to the 160s-120s BC.

65 Lawall 2001b, 574; 2002a, 295-324.

66 Finkielsztejn 2001, 193.

67 Bogoljubova 1988, 235; Monachov 1999a, 566.

68 Monachov 1999a, 566-567.

69 Apart from amphoras the finds from Bol'šoj Kastel' remain unpublished.

70 Golenko & Ščeglov 1971, 41-47; Ščeglov 1978, 42, fig. 11; Daševskaja 1991, 21, 50.

71 Thompson 1961, 28.

72 Lewis 1962; Boehringer 1972, 22-27; Mørkholm 1984; Price 1989, 239.

73 Boehringer 1972, 26. See also Mattingly 1990, 67-78, who strengthens this dating by adducing additional hoard evidence.

74 See, e.g., Daševskaja 1991, 22; Vysotskaja 1994, 140.

75 The evidence from Scythian Neapolis where the latest Rhodian stamp is represented by the period-5c magistrate Aratophanes II assigned by Finkielsztejn to 109 BC (see Zajcev 2003, 17, and his paper in this volume) proves that the destruction of the Southern Palace by the troops of Diophantos took place in this year or, what seems more likely, in the following year 108 (probably during his second campaign against the Scythians). This fact taken together with the find of New Style Issue 57 from Terekly-Konrat eliminates the dating of the Crimean campaigns of Diophantos to the period earlier than 110 BC suggested by some scholars (e.g. Vinogradov 1985, 645; McGing 1986a, 47). For the chronology of these campaigns, see discussion by Ballesteros Pastor 1996, 45-46, with literature. Along with the Athenian *stephanophora* there is another coin issue, which can also be reliably linked to the campaigns of Diophantos, namely the Mithridatic bronze specimens of type "Ares/sword". Their finds in the destruction layers of Scythian Neapolis (Zajcev 1994, 115; 1995, 78-79, fig. 6.70; 1999, 129, fig. 1; 2003, 79, fig. 9.32, 86, fig. 16.67: horizon D1; 1 ex.) and the fortified Scythian settlement of Ust'-Alma (Vysotskaja 1989, 41; 1994, 13; 3 ex.) connected with this event prove that type "Ares/sword" was struck prior to 108 BC. Cf., however, the most recent revision of Imhoof-Blumer's chronology suggested by F. de Callataÿ (2002, 159), who assigns this type to the period c. 95-90 BC.

76 A brief revival of the settlements is suggested also by the Chersonesean bronze coin of the first third of the 1st century BC found in Južno-Donuzlavskoe. See Stolba & Golencov 2000, 276-278, no. 4, 277 fig. 1.4. Cf., however, Vnukov 2001, 168: "several of the region's settlements were restored in the early 1st century BC but it is unclear whether they were Greek or Scythian and what kind of connection they had with Chersonesus"; Ščeglov 1978, 134: "the archaeological facts show that Chersonesos apparently being rendered lifeless by the continuing wars was not able to re-colonize and to develop the region anew".

77 Seyrig 1971, 25 = 1986, 185.

78 Boehringer 1975 = *CH* I, 80 = *CH* VIII, 442. In Boehringer's publication it is incorrectly called "the Trabzon hoard". On the find circumstances, see Arslan & Lightfoot 1999, 42, note 70.

79 Boehringer 1975, 52.

80 Some later date of the hoard burial (c. 140-120 BC) assumed by Arslan and Lightfoot (1999, 43) lacks any solid proof.

81 The hoard also contained at least 20 New Style Athenian tetradrachms of Issues 4, 7-8, 10-13 (Boehringer 1975, 50-51, nos. 126-138; Arslan & Lightfoot 1999, pl. 70, nos. 976-982), which will fall in the period from 161/160 to 152/151, if we accept 164 BC as an initial date and assume annual coinage without gaps from the start.

82 Threatte 1980, 258-259: "No example of O for OY on a stone text of the third century is very convincing"; See also Teodorsson 1978, 41, 77.

83 Choreios, which derives from the Dionysos' cultic name Χορεῖος (see Plut. *Quaest. conv.* 680 b; Bechtel 1917, 531; Tochtas'ev 1997, 394-395), is not a common name in Chersonesos. So, it is attested as a "coin magistrate" on a series of Chersonesean bronze coins from the last quarter of the 4th century (320-310 BC according to Anokhin 1980, 133, no. 73), who is apparently the same person as the *astynomos*

in question. The sub-group-2A magistrate Apollas Choreiou is likely to be his son. This linkage suggests the positioning of the latter closer to the middle of sub-group 1Б rather than towards its end. At any rate it must be earlier than Syriskos attested on the following issue of local coins. The second and the last cluster of evidence for this name dates already to the late 3rd – first third of the 2nd century BC: 1) Choreios (on two denominations of bronze coins; Anokhin 1980, 140, nos. 144 and 146: "210-200 BC", whose dating seems to me a bit too early); 2) Choreios Lykonos, *astynomos* of sub-group 3A, presumably the same person with the "coin magistrate"; 3) Lykon Choreio, *astynomos* of sub-group 3Б; 4) Ariston Choreio, *astynomos* of sub-group 3B. As proved by the patronymic of Choreios, both Lykon, named according to Greek tradition after his grandfather (on this custom, see, e.g., Angermann 1893, 17-18; Fränkel 1935, 1624), and Ariston should be his sons. Cf. an earlier arrangement of magistrates by Kac (1985, 108), where both Pasion and Choreios are allocated to sub-group 1Б.

84 I am very much indebted to A.S. Golencov, who acquainted me with a squeeze and a photograph of the stamp. Inv. no. Bel. 96/4: ΝΑΝΩ[ΝΟΣ Σ] | ΥΜΜΑΧ[ΟΥ Α] | Σ[ΤΥ]ΝΟ[ΜΟΥΝ] | ΤΟΣ. The two *mys* in line 2 are in ligature.

85 The last of these three officials seems to be Istron, for according to Koscjuško-Valjužinič's report on the excavations of the ceramic workshop among the numerous amphoras found in the kiln 28 jars bore the stamps of this magistrate. See, Koscjuško-Valjužinič 1900, 157; 1902, 23; Monachov 1984, 123. Use of a barred sigma in the stamps of Nikeas, son of Herakleios, also might point towards their earlier date than Istron as well as Eumelos, Lykon and Matrodoros, in whose stamps we find invariable employment of a lunate sigma.

86 Kac 1994, 63.

87 Kac 1994, 63-64.

88 Kruglikova 1983, 50; Saprykin 1994, 31.

89 Kruglikova 1983, 48-51; Saprykin 1994, 34.

90 See Kac 1994 (Part 3: Tablicy keramičeskich klejm), pl. 30, die 1-66, 1 (Kallistratos) and pl. 34, die 1-78, 1 (Matrodoros).

91 Kac 1994, 93, no. 42.

92 The sole case of an earlier employment of a cursive omega is the group-1B magistrate Pasion (Kac 1994, pl. 39, dies 1-93,6-8).

93 Cf. Fränkel 1935, 1624.

94 Nonetheless, the first signs of the crisis should date even earlier. See Stolba (forthcoming).

95 Ščeglov 1978, 128; Kolesnikov 1984, 85; 1985a, 13-16; Lancov 1994, 92; Kolesnikov & Jacenko 1999, 307; Daševskaja & Golencov 1999, 167; Hannestad, Stolba & Ščeglov 2002, 280-281.

96 Kutajsov & Užencev 1994, 55; Užencev 2002, 13.

97 Zolotarev & Turovskij 1990, 78, 84.

98 For the hoards account, see now Gilevič 1999.

99 The Monumental Building U6: Monachov 1999a, 503; Kac et al. 2002, 119-123. The finds from the excavated areas outside the building U6 are adduced according to Monachov 1999a, 516 and the find lists of 1979-1994.

100 Kolesnikov 1985b, 86-91.

101 Monachov 1999a, 524-529.

102 Brašinskij 1980, 196-198; Danil'čenko & Marčenko 1988, 33-34; Monachov 1999a, 487-497; Kac 2001, 85-91.

103 Archives of the National Preserve "Tauric Chersonesos", file 795/4-3, inv. nos. 36438-36442, 36571.
104 Kac 1994, 47-49; Brujako 1998, 19.
105 Kovalenko 1991, 30-31.
106 Kac 1994, 47-49.
107 Lancov 1994, 94-97.
108 Daševskaja & Golencov 1999, 166.
109 Monachov 1999a, 522-524.

The Dating of the Monumental Building U6 at Panskoe I

Lise Hannestad

This case study presents our attempts to date a building complex at the site of Panskoe I in north-western Crimea (Fig. 1).[1]

The building was excavated by a team headed by Alexander Ščeglov, as part of the impressive research programme *Archaeological Investigations in North-Western Crimea*, which at the time of its initiation in 1959 set a whole new standard in landscape archaeology.

U6 (Fig. 2) is a building on a square plan (c. 34.5 × 34.5 m), covering *c*. 1190 m^2. The central part consists of a large open courtyard with a well hewn out of the rock in the centre. The only entrance to the building is a gate in the middle of its south-western side, leading directly into the courtyard. The courtyard is surrounded by rooms on all four sides: originally one row of rooms, later a second row of rooms was added on the south-western and south-eastern sides. There was a second storey on all four sides. The layout of the rooms suggests that the building housed a number of families or groups of people, and the fact that the skeletons of a young woman and a child were found in the well seems to confirm that women and children also lived here. Apart from rooms used for habitation, there were storerooms for grain and oil, for instance room 3 and the rooms above rooms 3 and 13. A common dining hall seems to have been situated above room 5. The building was destroyed by a fire that resulted in the collapse of the whole upper floor, but otherwise the building and its contents were almost completely intact at the time of excavation. Thus, for instance in room 12, which functioned as a house sanctuary, the contents were mainly found *in situ*.

The fire was undoubtedly provoked by an attack by Scythian nomads, the evidence for this – apart from the destruction itself – being that most of the arrowheads were found outside the building on the north-eastern side near the wall, or in the wall itself, or in the courtyard, and all with their points directed towards the west, south-west or south, suggesting that the arrows were shot from the north-east.[2] Bones from horses were found in the well in the middle of the courtyard, seemingly debris from a meal probably celebrated by the attackers after the destruction (since the debris would have ruined the water of the well), and this also suggests that the enemy were Scythians, horseflesh being a favourite diet of these nomads.[3]

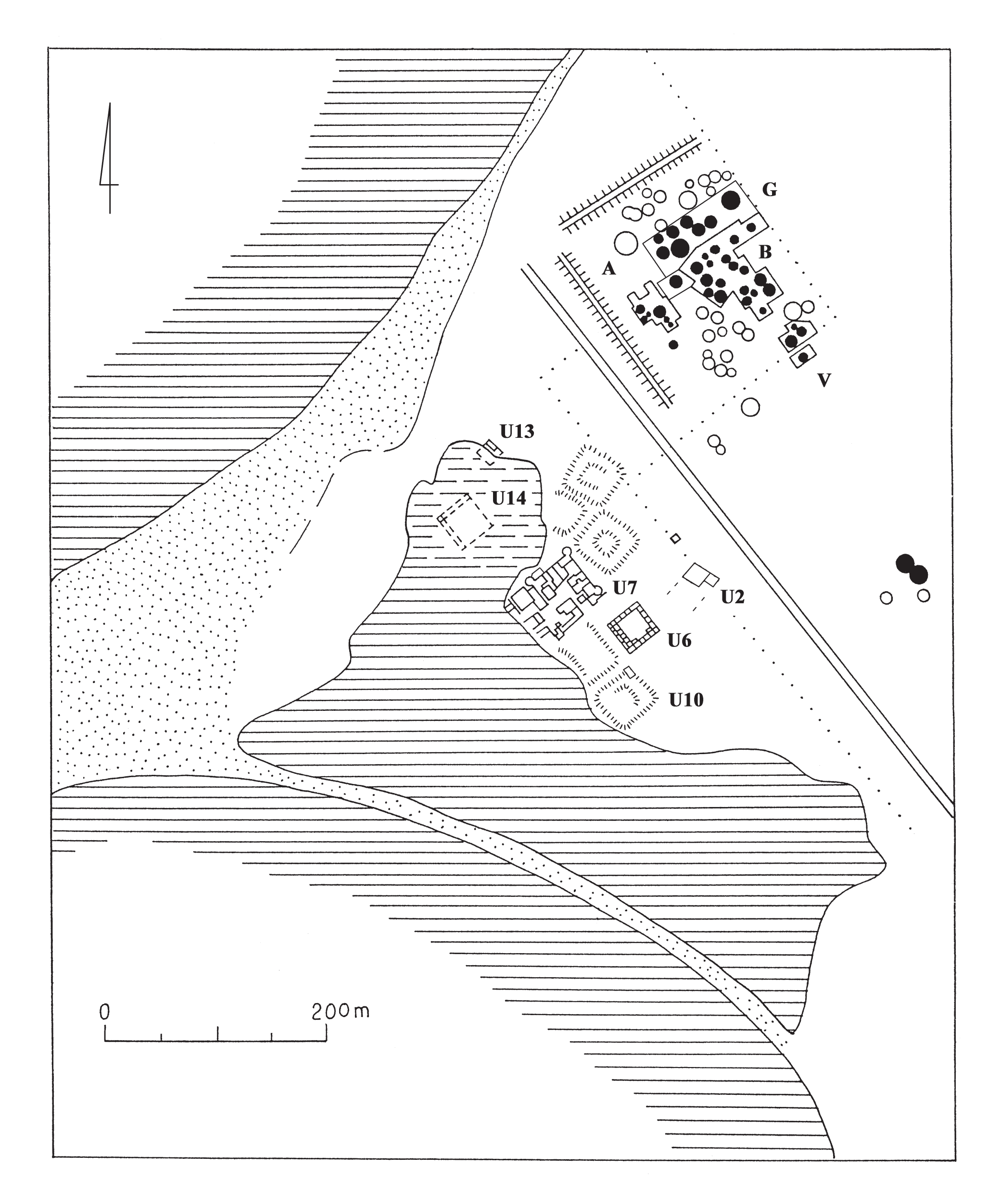


Fig. 1. The settlement and necropolis of Panskoe I (plan of excavations 1969-1992).

The stratigraphy clearly shows that U6 was erected on virgin soil, with no traces of earlier building activities.[4]

When did the destruction take place and when was the building erected? These are, of course, questions of primary importance. In our publication we have reached the conclusion that it was built sometime during the decade c. 320-310, and destroyed around 270 BC.[5]

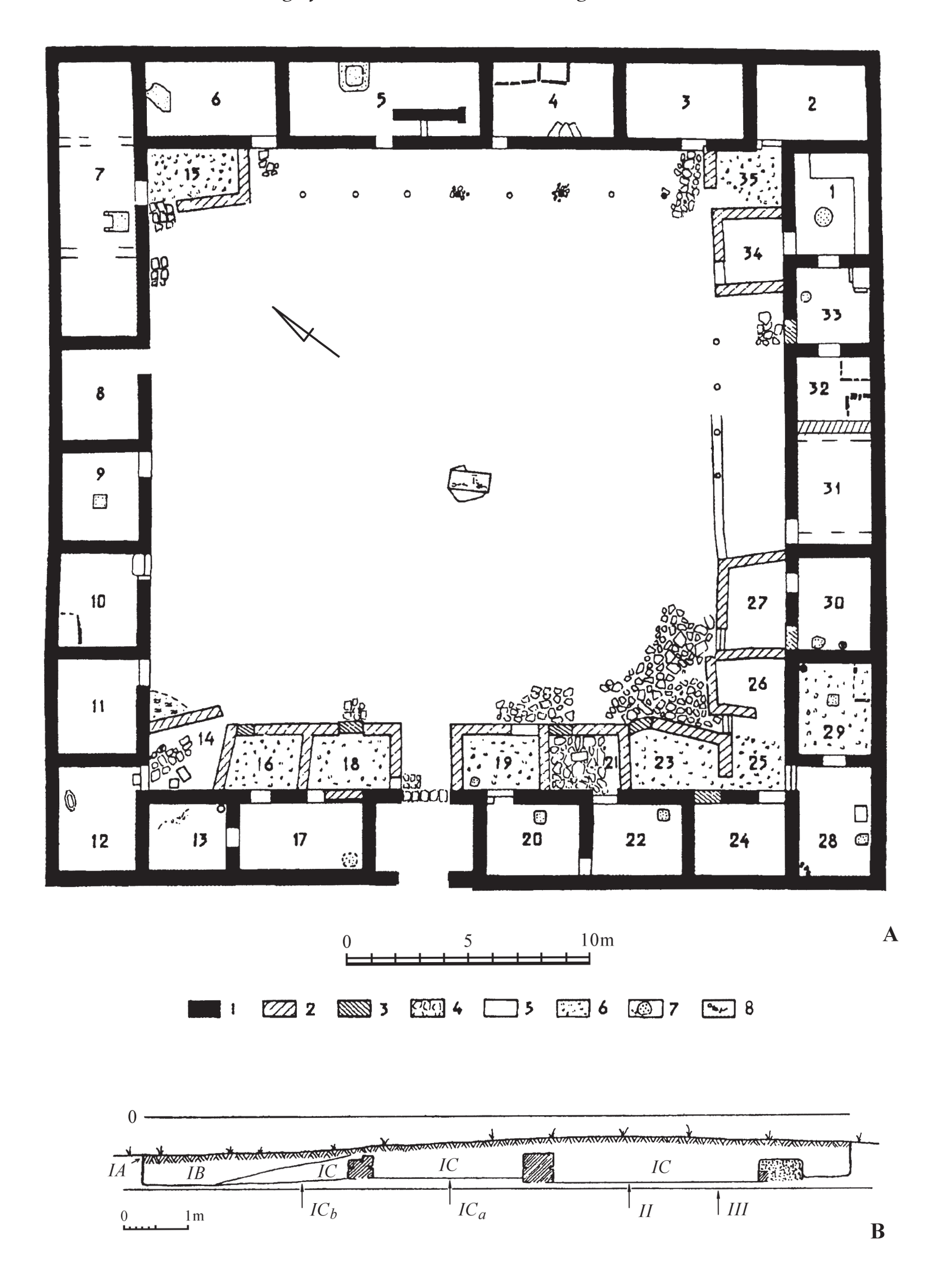


Fig. 2. Plan of U6.

Among the many groups of material found in the building the following are obviously the most important in determining chronology:[6]

1) Amphora stamps (Sinope, Chersonesos, Herakleia, Amastris[7] and Thasos)
2) Chersonesean bronze coins
3) Attic fine ware pottery

If we look first at the date suggested for the destruction, this is based on the evidence of the amphora stamps and fixed at c. 270 BC. 142 amphora stamps were recorded from U6. They are distributed as follows:

Chesonesos	100
Sinope	15
Amastris	2
Herakleia	16
Thasos	1
Unidentified centres	8

They include 12 stamps made with dies not previously known. Among the stamps the most important for absolute dating are the 15 Sinopean (See Fig. 3) and the single Thasian (Fig. 4), simply because at present it seems that the chronologies of these two production centres are the most reliable of those represented in the building. The absolute chronology of Grakov's classification of the amphora stamps of Sinope has been much disputed. The publication of the stamps from U6 is the work of Vladimir Kac, according to whom there is now a growing consensus that the practice of stamping began in Sinope in the 370s-360s and he considers this first phase (with c. 20 known magistrates) to have lasted into the 340s.[8] The number of recorded magistrates sets the limits for the next two groups. At present about 30 *astynomoi* have been recorded in each group, which suggests that Group II starts in the 340s and continues into the beginning of the last decade of the 4th century, whereas Group III should cover the end of the 4th century and the first two decades of the 3rd century BC. This indicates that the late 280s or the early 270's is the period when the *astynomoi* of Group IV begin. Three quarters of the Sinope stamps from U6 belong to Group III, i.e. the first two decades of the third century; the *astynomoi* mentioned on these stamps seem to belong late in Group III, which suggests that the amphoras in U6 are mainly concentrated in the second half of the 280s.

The names are: Theudorides (Ae 102), Theupeithes (Ae 103), Mikrios (Ae 105), Mnesikles (Ae 106-111= 6 pieces) and Pythokles (Ae 112).[9] One stamp with the *astynomos* Histiaios (Ae 104) (son of Demetrios – the stamp is very poorly preserved) is from the beginning of Group IV, which, as I have already mentioned, is supposed to start in the late 280s or early 270s. A single stamp



Fig. 3. Sinopean amphora stamps.



Fig. 4. Thasian amphora stamp with the name of Bion (I).

with the name of Hephaistios belongs to Grakov's Group I, and Kac has dated it to the middle of the 4th century – clearly from a piece reused in U6, as is also the case with some fine ware pottery (see below).

The single stamp of a Thasian amphora carries the name of Bion (Ae 133) (Fig. 4). According to Debidour's classification, Bion I was in office in the first quarter of the 3rd century BC.

Fig. 5 shows a table of the Chersonesean amphora stamps. For this early period in the stamping of the amphoras of this city, Kac's dates rely on a typological development of the stamps combined with fixed points consisting of a number of closed complexes in Chersonesos itself and at various sites in its *chora*. The beginning of the practice of stamping amphoras in Chersonesos has been established by Kac through a combination with the chronology of Thasian stamps.[10]

The date of the erection of the building is based on (1) Chersonesean stamps of Kac's Group IA, (2) coins, and (3) the date of a significant amount of the imported black-glazed pottery.

Nine copper coins were found in U6, and have been published by Anna Gilevič.[11] All nine were minted in Chersonesos. This modest number of coins is not uncommon on rural sites in the *chorai* of the Greek cities of the northern Black Sea coast. Thus, Chersonesean silver coins are extremely rare in the *chora*; Gilevič mentions a single example from South-Donuzlav in the northwestern Crimea, and at least one (possibly 5-6) from the Novo-Fedorovka hoard (south of the town of Saki). To these can be added a single specimen from Čhaika.[12]

In contrast to the other buildings at Panskoe I – and other rural settlements in the *chora* of Chersonesos – U6 revealed no coins of Kerkinitis or Pantikapaion. In this respect the coins from U6 correspond to the finds from the "home" *chora* on the Herakleian Peninsula during the last third of the 4th – the first third of the 3rd century BC.[13]

Three coins were found under the floors of rooms 22 and 24, the others directly on the floor (room 12) or lying together and mixed with accumulations of broken pottery on the surface of the courtyard (see Fig. 6). Thus – apart from

Chroological Groups	Chronological Limits	Magistrates	Number of Stamps
1A	325-315 BC	*Bathyllos*	14
		Eua( )	15
		Eukleidas	2
		Kraton	3
		Sopolis	1
		Total	**35**
1Б	315-300 BC	*Alexandros*	1
		Apollonios	17
		Herakleios	1
		Xanthos	7
		Sokritos	4
		Total	**21**
1B	300-285 BC	*Dioskouridas*	20
		Herodotos	1
		Total	**21**
2A	285-272 BC	*Apollas Choreiou*	1
		Kotytion Aristonos	1
		Prytanis Aristonos	1
		Total	**3**
		Total	**89**

Fig. 5. Magistrate stamps of Chersonesos.

the three coins under the floors of rooms 22 and 24 (nos. 5, 7-8) – they must all have been in circulation at the time of the destruction. No. 7, found under the floor of room 22 is not worn (thus if we had a precise dating of this type, it would be valuable for the dating of the erection of the building), whereas no. 1, found on the floor of the sanctuary (room 12), and showing a quadriga on the obverse and on the reverse a kneeling warrior, is very worn.

The nine coins are poorly preserved, but it has been possible to identify the type of all of them. They belong to issues from different periods, covering, according to Gilevič, the time from about the middle of the 4th century to the beginning of the 3rd century.

Nos. 6-9 are of the type with Parthenos striking down a hind, with a spear in her left hand and in her right a bow, and on the reverse a butting bull. The magistrate's name on no. 6 is ΕΥΔΡΟΜΟΣ, and on 7-9 it is ΚΛΕΜΥΤΑΔΑΣ. The dating of this series has changed over the years. Gilevič has suggested the first half of the third century; later researchers have suggested c. 300-280 BC, whereas most recently, V.F. Stolba has pushed this type (nos. 6-9) back into the late 4th century BC.[14]

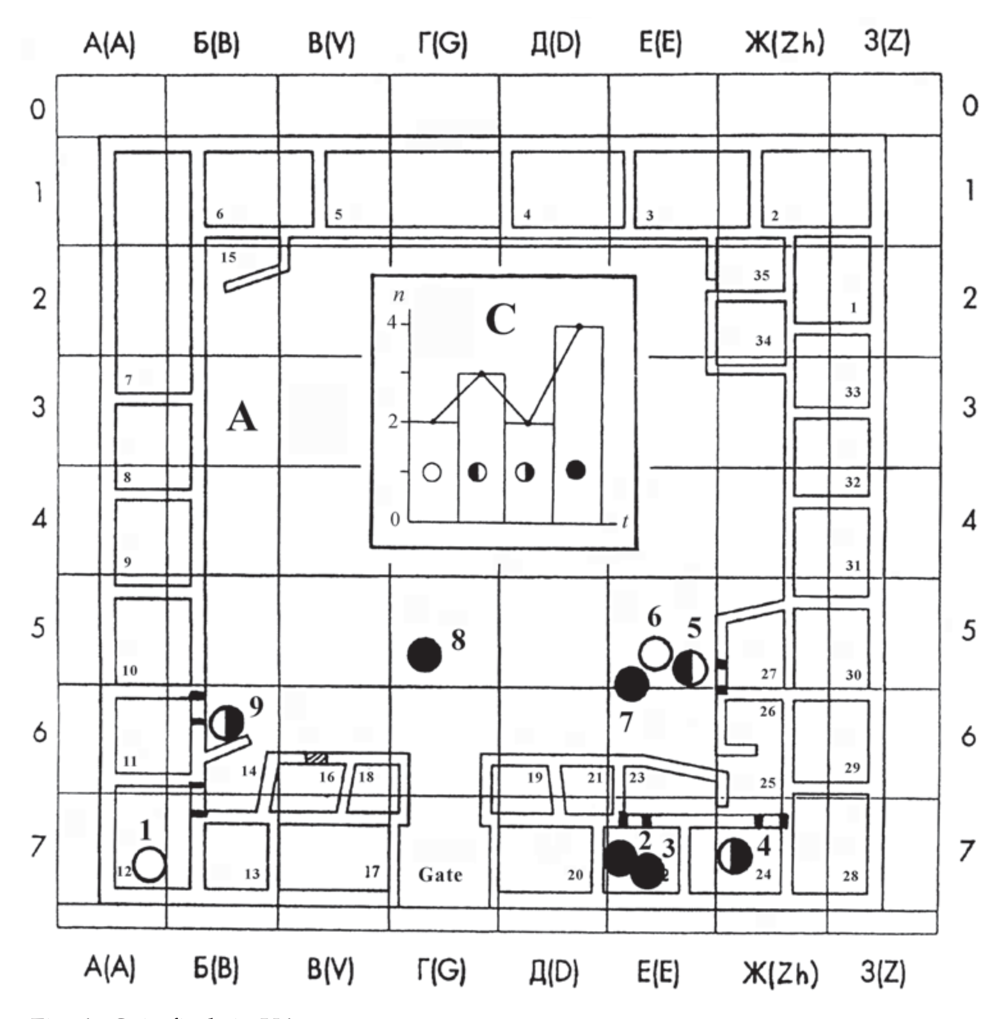


Fig. 6. Coin finds in U6.

The fine ware pottery, i.e. mainly black-glazed ware, has provided yet another dating criteria. Here, an issue of central importance is where the individual pieces were produced, in Athens or in other centres. In our catalogue[15] we have classified as Attic only pieces in which the clay conforms to Rotroff's description of the clay used for Attic fine pottery during the Hellenistic period, including the varieties of Munsell colours enumerated by her.[16] As to the origins of a substantial number of the catalogued items, we have refrained from suggesting production centres, since such suggestions could only be hypothetical and would probably only cause further confusion.

The three main shapes are:

Drinking vessels (the kantharos being the most common)
Bowls (mainly bowls with out-turned rim and echinus bowls)
Plates (plates with rolled rim and fish-plates)

Other shapes are comparatively rare. All the kantharoi (see Figs. 7-8 for examples) belong to Rotroff's type "classical kantharos",[17] and all have a plain rim. There are two versions: with plain bowl and with ribbed bowl. Some of those with ribbed bowl are decorated on the neck with garlands of ivy or olive.

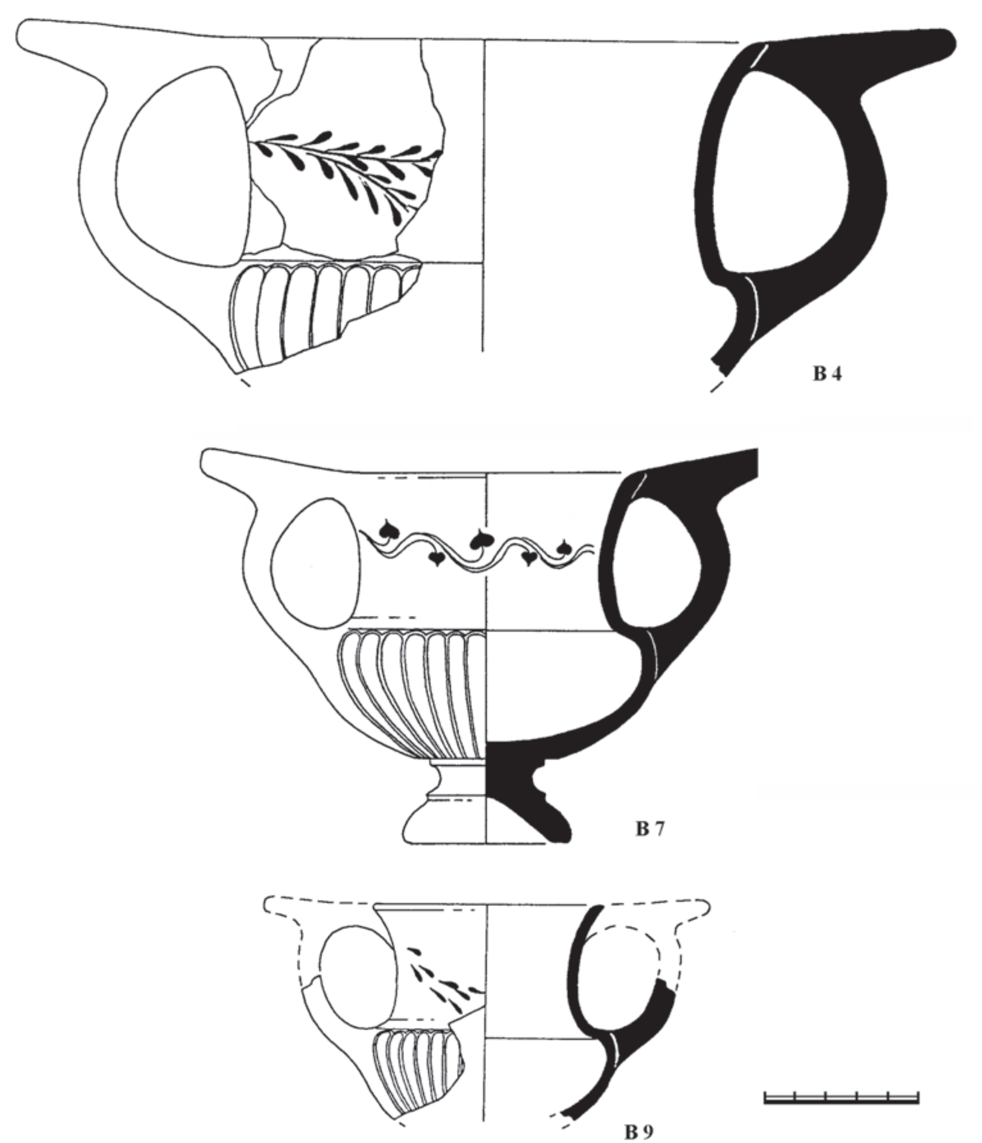


Fig. 7. Black-glazed kantharoi with ribbed bowls from U6.

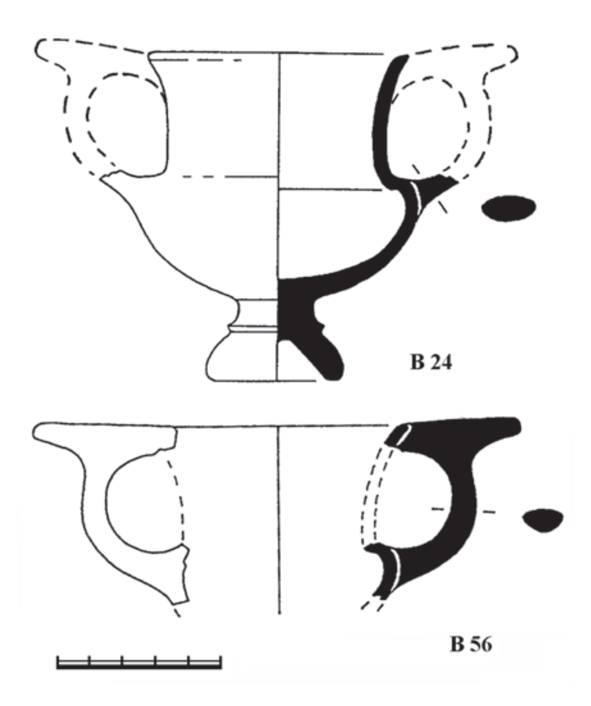


Fig. 8. Black-glazed kantharoi with plain bowls from U6.

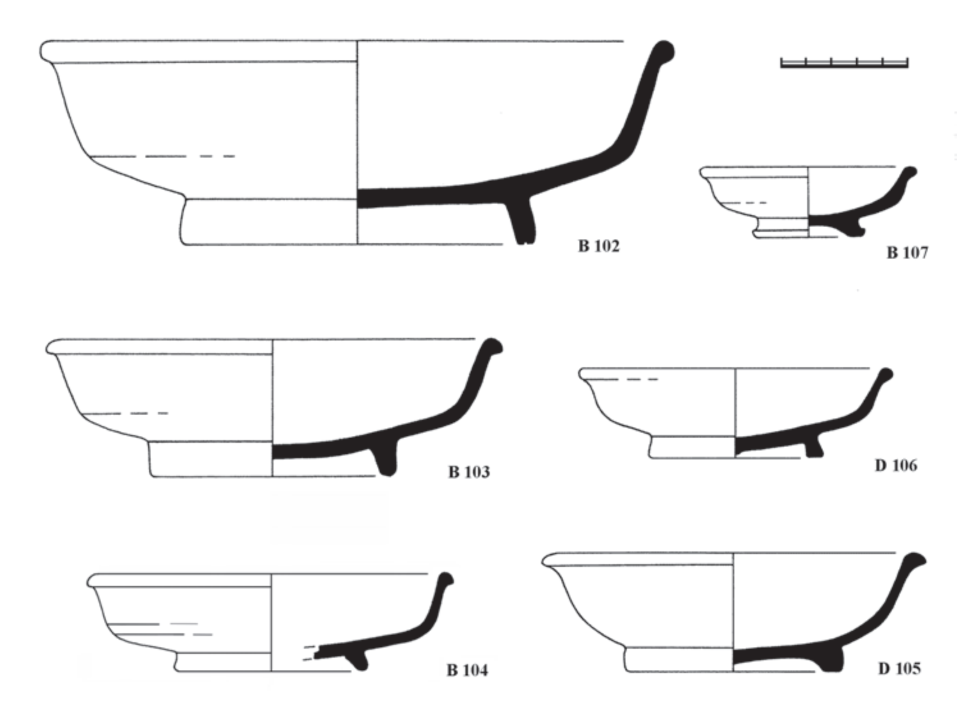


Fig. 9. Black-glazed bowls with out-turned rims from U6.

As to the dating of these kantharoi, we have relied on the chronology put forward by Rotroff for the Athenian Agora. This suggests that they cover the last quarter of the 4th century and possibly continue into the early third century with a cluster in the period 320-310.

The bowls follow the pattern seen in Athens, the bowl with out-turned rim being far more common than the echinus bowl – an indication, perhaps, that the import of black-glazed is mainly Attic. The bowls with out-turned rims (see Fig. 9) date in the period 325-290, possibly with the main cluster in 300-290 when compared with the material from the Athenian agora. Only one specimen has a stamped decoration inside the bowl, and its shape also suggests that it is probably the earliest of this type of bowl from the building.[18]

The plates include plates with rolled rim and fish-plates (see Fig. 10), of which the fish-plate seems to have been the most popular – in contrast to the Athenian agora. The plate with rolled rim very rarely has a stamped decoration inside, the normal being only a circle of rouletting. When compared

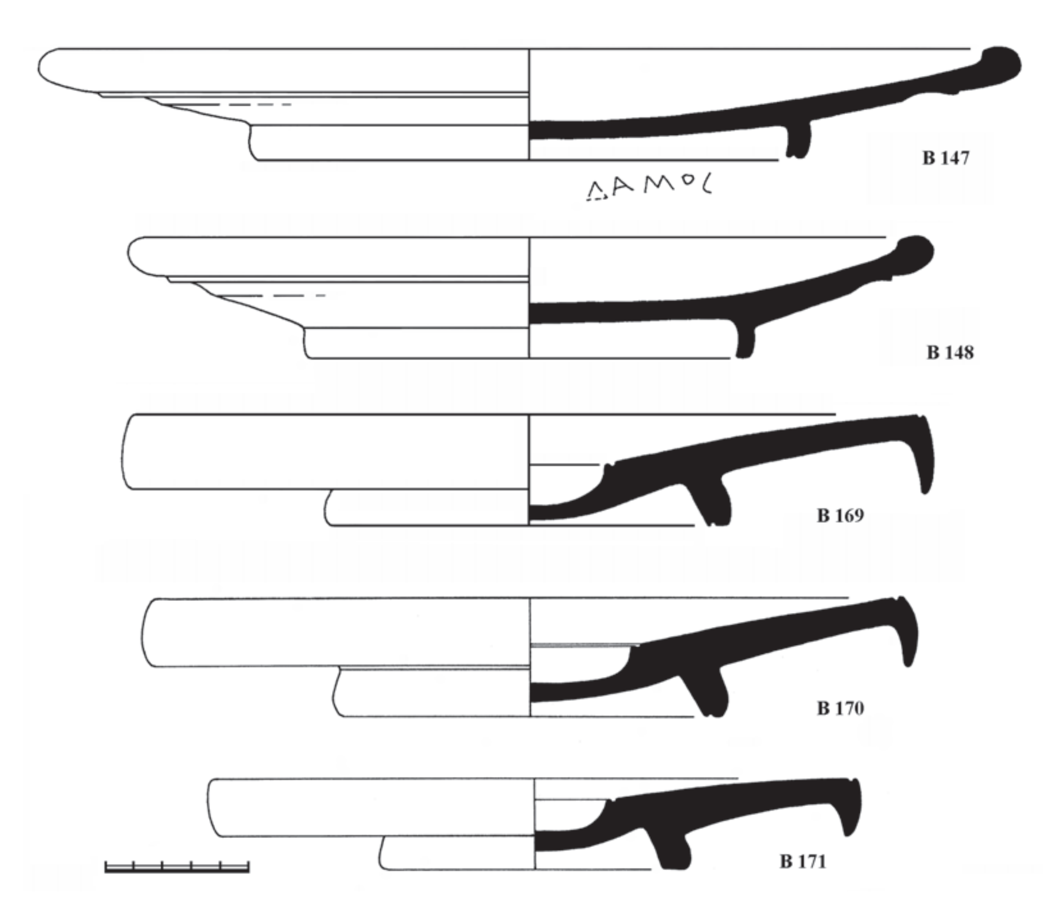


Fig. 10. Plates with rolled rim and fish-plates from U6.



Fig. 11. Upper part of Attic red-figure askos close to the Group of the Cambridge Askos.



Fig. 12. Cup-skyphos with a dedication to Sabazios.

with material from the Athenian agora, the rolled rim plates belong mainly in the last quarter of the 4th century, whereas the fish-plates seem instead to belong to the decade 300-290 BC.

None of the pieces of the fine ware – apart from a fragment of a Megarian bowl (see below) – necessarily supports a destruction date as late as 270 BC. Possibly the fact that a very large amount of the pottery has been repaired may indicate that it had actually been in use for some time before the destruction. Apparently no substantial new supplies of such pottery arrived at the building in the period immediately before the destruction.[19]

On the other hand, there are pieces, which are definitely earlier than 320 BC. First and foremost a couple of sherds of red-figure pottery. A small fragment, probably of a stemless cup showing the head and shoulder of a satyr, is probably by the Q-painter and to be dated in the early 4th century. The upper part of an askos (Fig. 11) decorated with two pairs of female heads (one pair with sakkoi, one with Amazon headdress) is very close to the Group of the Cambridge Askos and may perhaps date as late as 320 BC.[20] However, the fact that only this fragment was found in U6 suggests that the piece was already broken by the time the building was erected and that it was used here for secondary purposes – as a lid or simply as a kind of decoration.

Another important piece is the Sabazios cup (Fig. 12), a type, which on the Athenian agora has been dated by Sparkes and Talcott to around 380 BC.[21] However, in a Milesian context it has been dated by Pfrommer[22] as definitely



Fig. 13. Fragments of a Megarian bowl from U6.

later than 380; he proposes a date around 375-350, and in Corinth the type has been found in a grave in the North Cemetery together with an obol possibly to be dated 338-315. The type is not represented among the Hellenistic tableware from the agora published by Rotroff, which strongly suggests that the type had gone out of use in Athens by the beginning of the Hellenistic period. If the piece from U6 is of Attic origin, the fact that it was still in use at the time of the destruction of the building can perhaps be explained by its being a ritual vessel.

One piece of pottery seems to contradict a destruction date around 270, i.e. fragments of a single Megarian bowl[23] of the Ionian type (Fig. 13) dating from the 2nd century BC. This, however, was found in the turf layer (horizon IA), and should in all probability rather be connected with similar finds in the building complex U2, where sherds of Megarian bowls have been recorded in at least two rooms (18 and 11, the uppermost layer). Together, these sherds suggest that, in contrast to what has often been stated, Panskoe I was not left completely uninhabited after the destruction, but habitation seems to have been on a very small scale, possibly only a couple of families. Further excavations may be able to illuminate this late phase.

Notes

1 See Hannestad, Stolba & Ščeglov 2002.
2 Rogov 2002, 258.
3 Kasparov 2002, 332.
4 See Ščeglov 2002b, 36.
5 See Hannestad, Stolba & Ščeglov 2002a.
6 See Lawall this volume for the problems of the interdependency of chronologies.
7 For the so-called Amastrian amphoras and their dating, see now Stolba 2003.

8 See Kac, Monachov, Stolba & Ščeglov 2002. Cf. Fedoseev 1994, 189; 1999, 29-30. Conovici 1989 and this volume argues for a lower dating of the beginning of the stamping practice.
9 The numbers in brackets refer to the numbers in the catalogue Kac, Monachov, Stolba & Ščeglov 2002.
10 See the contribution by V.F. Stolba in this volume.
11 See Gilevič 2002.
12 Stolba & Golencov 2000, 276.
13 See Ščeglov 1994, 42-43; Turovskij 1998, 225-227.
14 Stolba 1989, 63, 67.
15 Hannestad, Stolba & Hastrup 2002.
16 In some cases we have suggested an Attic origin, even if the colour of the clay deviates somewhat from those specified by Rotroff. The reason for this is that, due to the destruction of the building by fire, quite a lot of the pottery underwent a kind of second firing, changing the original colour of the clay.
17 Rotroff 1997b, 83 ff.
18 Hannestad, Stolba & Hastrup 2002, no. B 102.
19 This conclusion depends, of course, on the destruction date suggested by the amphora stamps (and in the end on the reliability of the stamp chronologies).
20 The opinion of A.V. Bujskich and V.M. Zubar (2003, 142) that this type of Attic red-figure cannot be dated later than the middle of the 4th century BC strongly disagrees with the opinion of for instance J. Boardman (1989, 190).
21 Sparkes & Talcott 1970, no. 608.
22 Pfrommer 1985, 55, no. 24.
23 Hannestad, Stolba & Hastrup 2002, no. B 144.

A Hellenistic Ceramic Deposit from the North-eastern Sector of Chersonesos

Miron I. Zolotarev

Regular excavations have taken place in ancient Chersonesos since 1888. During this period a number of sections of the city, mainly dating from the Byzantine period have been investigated.

As to the older phases of the city, much less has been revealed, particularly when it comes to the Hellenistic period. Very few assemblages dating from this period have as yet been uncovered. However, on the basis of the few Hellenistic assemblages that have been found, an attempt can be made to build up typologies and chronological developments for a number of artefacts. This paper will present one such assemblage uncovered by the author in the north-eastern part of the city.

In 1991, during the excavations of Block 96 in the north-eastern district of Chersonesos, a cistern tightly packed with pottery debris was found, and this fill was dated to the early Hellenistic period in the preliminary report.[1]

The cistern was found under the floor of a room in a house dating from the Byzantine period, the main part of which had been built directly on the bedrock. Only in the north-western part of room I, did it rest upon debris from the Hellenistic period, which turned out to be the filling of a cistern. It was later revealed that the south-eastern part of the house's neighbouring room XI also rested on the cistern (Fig. 1).

The square-shaped cistern was cut out of the bedrock. Its dimensions are 1.45 × 1.45 m with a depth of 1.90 m. These measures are compatible with 4.5 × 4.5 × 6 feet based on the Attic standard foot of 32.5 cm.[2]

Only the rock surface of the interior of the cistern is preserved, with no traces of stucco or stone constructions, and this was probably how the cistern was meant to be, since the rock here is very solid. The walls show traces of cutting tools such as picks, and the work was very carefully done. Part of the mouth of the cistern (30 cm) – a low and narrow ledge – is preserved in room XI of the Byzantine house.

The fill of the cistern made up about four cubic metres of tightly packed broken pottery, altogether about 3000 fragments.

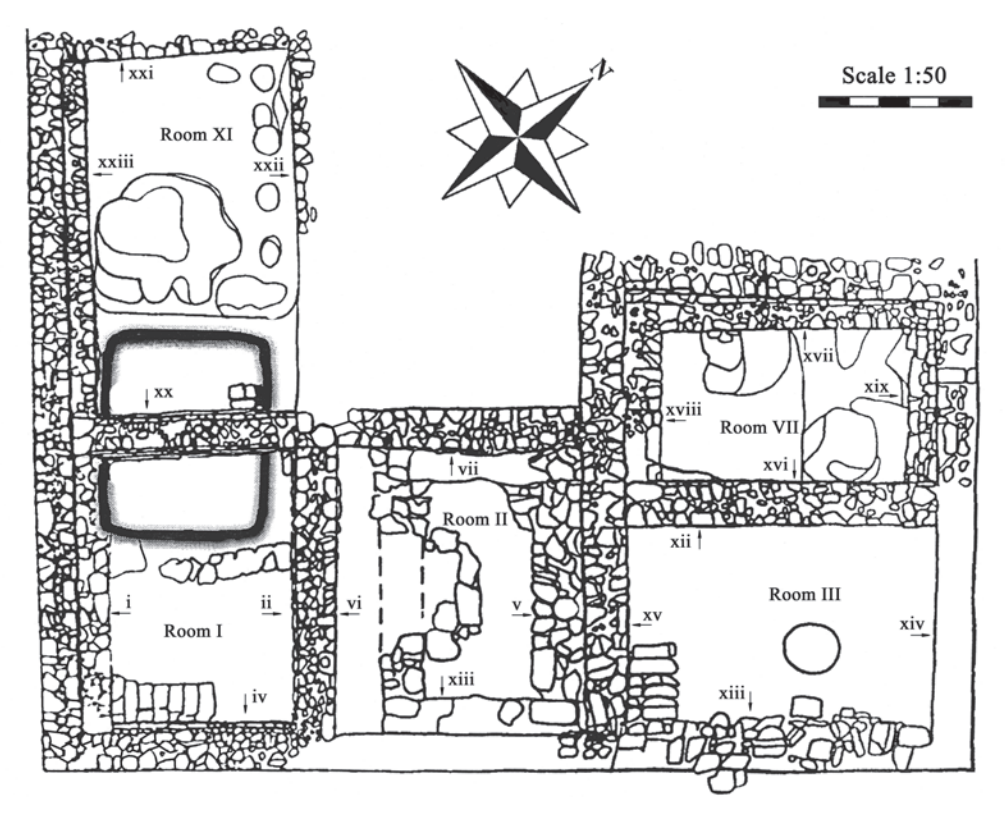


Fig. 1. Plan of the house excavated in 1991, showing the position of the cistern.

AMPHORAS

The majority of the sherds come from amphoras (898 fragments) and jugs. Of the amphora fragments, 739 can be classified as Chersonesean. Some could be restored to virtually complete vessels, but the majority come from amphora necks (Figs. 2-3). They belong to type I (variants Б-Г) as well as to the different variants of types II-IV according to Monachov's classification, and can be dated within the 3rd century BC.[3]

The latest specimens are toes of type II B, a type which, according to Monachov, is mostly characteristic of the second half of the 3rd century BC.[4]

The second most common group of amphora fragments derive from Sinopean amphoras (106 fragments). According to their shape they belong to the second half of the 3rd century and the beginning of the 2nd century BC,[5] and three peg toes from the Rhodian amphoras can be assigned to the same period.

Among the fragments are also a few dating from an earlier period: 34 fragments from Herakleia Pontike, four from Samos, three from Thasos, two from

Mende, and one from Chios. These, however, were probably already sherds when they ended up in the cistern at the time it was filled in.

Special mention should be made of the complete neck and base of an amphora from Kolchis – a rare find at Chersonesos – with the graffito "A" under the handle. The shape of the toe and neck and the proportions of the body date this amphora to the 3rd century BC. A similar vessel, also found in the north-eastern part of Chersonesos, has been published by V.V. Soznik and G.R. Cecchladze with a very wide dating (3rd-2nd centuries BC).[6] The specimen found in our cistern can provide new evidence for a more precise dating of the amphora production at Kolchis.

An attempt to calculate the number of complete amphoras in the assemblage, based on amphora toes, provides the following result, showing the absolute predominance of amphoras from Chersonesos:

Chersonesean	36
Sinopean	8
Rhodian	3

The dating of the amphoras depends on the stamps, which are not very numerous, a total of 24 specimens, all of which are either Chersonesean or Sinopean.

The Chersonesean stamps are of two types: stamps with the names of *astynomoi,* and monogram stamps. The five monogram stamps – all flat and rectangular – are very distinct. These stamps are usually supposed to be those of the fabricants. Only in a few cases are we able to correlate specific monogram stamps with stamps of *astynomoi*: 1) if the two stamps are placed together on one handle, or 2) if an amphora has both handles preserved, one with the stamp of an *astynomos* and the other with a monogram stamp. The chronology of Chersonesean monogram stamps is still hampered by many uncertainties and thus the monogram stamps cannot be used as dating evidence for the assemblage.[7]

All but one of the Chersonesean *astynomos* stamps in the assemblage can easily be read; most of them belong to V.I. Kac's chronological group 1. Three of them belong to sub-group 1A[8] and include two with the name of Matris and one with the name of Nanon. The Matris stamps are from two different dies. Five stamps belong to sub-group 1Б,[9] including three of the *astynomos* Apollonios, one of Herakleios and one with the name of Theogenes. Three stamps belong to sub-group 1B: two of the *astynomos* Dioskouridas made with the same die, and one of Apolla( ).[10]

Two stamps belong to Kac's chronological group 2: one with the name of the *astynomos* Apollas(?), belonging to sub-group A and one with the name of Matris, son of Agasikles, placed in sub-group Б.[11] The latest of the Chersonesean stamps, i.e. of Group 2Б, thus belong in the period from 272 to 262 BC.[12]

The Sinopean stamps correspond well with this date. They all belong to B.N. Grakov's chronological group IV.[13] The stamps of the *astynomos* Aischines and the fabricant Psammis and those of the *astynomos* Aischines, son of Iphios, and the fabricant Dias both have a bunch of grapes on the right hand side of the legend, whereas the stamps of the *astynomos* Artemidoros and the fabricant Kallisthenes and of the *astynomos* Demetrios, son of Theugnetos, and the fabricant Agathon have a kantharos as their emblem. The fabricant Psammis is also to be found in Grakov's Group V, and he is therefore likely to be the latest fabricant of Group IV.[14]

All the Sinopean stamps recorded in the deposit probably belong to very end of the chronological group IV. As to the date of this group, it is more precisely dated than the previous groups. Assemblages of the Group-IV stamps from Elizavetovskoe are dated to the 290s – 260s BC.[15] According to the Rumanian scholars N. Conovici, A. Avram and G. Poenaru Bordea, this group can be dated within a narrower time limit, from 279 to 258 BC.[16]

Bearing in mind that all the *astynomoi* and fabricants of the Sinopean stamps from our assemblage belong at the end of Grakov's group IV, it can be assumed that they date from the end of the 260s BC.

Thus, the amphora stamps in the fill of the cistern suggest that the closing of the deposit is to be dated to a period not earlier than the beginning of the second half of the 3rd century BC.

BLACK-GLAZED

Attic black-glazed ware (Figs. 4-8, 14.5) is also well represented in the fill of the cistern. Altogether, 606 fragments could be recorded. None of them, apart from a tiny piece, belong to the 5th or the turn of the 5th and 4th centuries. In contrast, the 3rd century is very well represented, including numerous large fragments of large fish-plates (31 pieces).[17]

The most frequent shape represented in black-glazed ware is the kantharos (45 pieces), some of which have decorations in thinned clay or in white paint. The glaze in some cases is dull and not of the quality found in the Attic black-glazed ware of the 5th and 4th centuries. Among the kantharoi, one of huge dimensions with fluted body and an ivy of thinned clay on the neck stands out. All the types of kantharoi represented in the cistern are well known on the Northern Black Sea littoral, in particular from the settlement of Panskoe I and the Hellenistic necropolis of Olbia.[18]

Small Attic black-glazed plates are also very common (66 pieces). They vary as to form and dimensions, but undoubtedly all served the same purpose. They can be divided into two main groups: plates with out-turned rim (46 pieces) and plates with incurved rim (20 pieces).[19]

Other shapes are represented only by tiny fragments – often difficult to identify.

Some vessels carry graffiti under the base, mainly monograms, which are difficult to decipher (Figs. 7.2, 7.6, 7.9, 8.1, 14.9). The most significant is the fragment of the body of a kantharos with a dedication, by Matris to an uncertain deity, incised on the outside (Fig. 14.7). The name Matris is well known in Chersonesean prosopography, from stone inscriptions and amphora stamps.[20]

The fill also included some Attic black-glazed lamps with a circular opening and an elongated nozzle as well as one with a through bush in the central part.[21] Among the finds are also a terracotta base with modelled bird's feet and two circular apertures for fixing a bird figurine of terracotta, or more probably of bronze.

COMMONWARE POTTERY

The most numerous group of finds is that of commonware pottery, representing a striking number of shapes (Figs. 9-13, 15-16). No less than 1036 pieces belong to this group, but only about 30 vessels could be restored virtually completely. All these vessels were probably produced in the pottery workshops of the city during the 3rd century BC. There are two main types: 1) a bulbous jug with flat or concave base, a short neck and a double-barrel handle and decorated with encircling red-painted bands (Fig. 9), of which 77 specimens were recorded; 2) A jug with tall neck, wide mouth, ribbon handle, and flat base. The decoration of this type of jug is more varied than that of Type 1, from encircling bands of red and white paint to garlands of ivy or olive. No less than 208 complete or partly complete vessels of this type were recorded (Figs. 10-12, 13.1-2).

To this group also belong jugs with double-barrel handles and slightly "swollen" neck, and those with a narrow-neck, as well as jugs with a loop handle rising above the rim. All these vessels are made of the same type of clay and have a decoration consisting of encircling bands of red paint.

In order to complete the description of the tableware pottery in the assemblage, mention should also be made of Chersonesean pots with flat rim and "double horned" handles; the edge of the rim is decorated with a band of thick red paint, and the bodies of the pots have floral designs in red paint. Several stemmed vessels (Fig. 14.1-4),[22] the lower part of a juglet (Fig. 14.5), and a very fine lid (Fig. 14.6) should also be mentioned.

Looking at the whole group of tableware, the abundance of pieces and the diversity of shapes is impressive. However, by far the most predominant shapes are the spherical jug and the jug with tall neck.

Kitchen ware

The large, flat-bottomed vessel, the shape characterized by its spout, and usually called a louterion, is represented by 30 fragments (Fig. 13.5-6, 13.12). All the examples have three or four finger indentations on each side of the out-turned rim, to be used as handles, and the handles are also sometimes flat strips of clay attached to the rim. The prototype for these vessels are louteria from Sinope, a type probably produced in all the cities of the northern Black Sea coast.[23]

The kitchenware from the cistern is represented by various wheel-made (173 fragments) and handmade (41 fragments) pots, pans, frying-pans, and tureens of various shapes. Some of these types are represented for the first time among the pottery found at Chersonesos.

In the fill were also found more than 30 pyramidal loom weights, on the upper surface of which are preserved impressions of intaglios (or perhaps finger-rings), and two fragments of small limestone altars. One of these is shaped in the form of a small Ionic capital, the other as a rectangular pyramid with profiles; only the lower part of this altar is preserved.

CONCLUSION

As to the date of the cistern and the fill, not only the evidence from the fill itself, but also the finds from the level above the cistern are important. The layer is poorly preserved, since it was destroyed during the Byzantine period. However, in room XI (see Fig. 1), this layer is actually preserved. Among the finds from the layer are some lamps dating to the 2nd and 1st centuries BC;[24] fragments of fish-plates of Pergamene production, with relief decoration showing animals; some red-glazed plates, probably produced in Samian workshops.[25] One of the plates has remains of graffiti on both the inside and outside. The layer overlying the cistern can thus be dated to the first century AD.

As to the date of the filling of the cistern, there is no piece of the assemblage that can be dated later than the 3rd century BC. Actually we can come closer to the date, since there were found practically no sherds of Megarian bowls, the production of which did not start until c. 240-220 BC.[26] There is very little material from the end of the 4th and the beginning of the 3rd century, and virtually all the pieces belong within the 3rd century BC. As the detailed analysis of the chronologically significant pieces, such as the amphora stamps and the Attic black-glazed pottery, has shown, the date can be narrowed down to the end of the first quarter – middle of the final quarter of the 3rd century BC.

It should be stressed that the investigated assemblage is a closed deposit. The huge quantities of archaeological material in the fill offer us a brilliant

opportunity to study the pottery production, the economy and the trade of Chersonesos in the early Hellenistic period. It should be noted that the material from the cistern is closely related to the finds from H.A. Thompson's cisterns in his already classic study "Two Centuries of Hellenistic Pottery".[27] I am convinced that the further studies of the finds from the cistern in Chersonesos will contribute decisively to the chronology of Hellenistic settlements in the *chora* of Chersonesos.

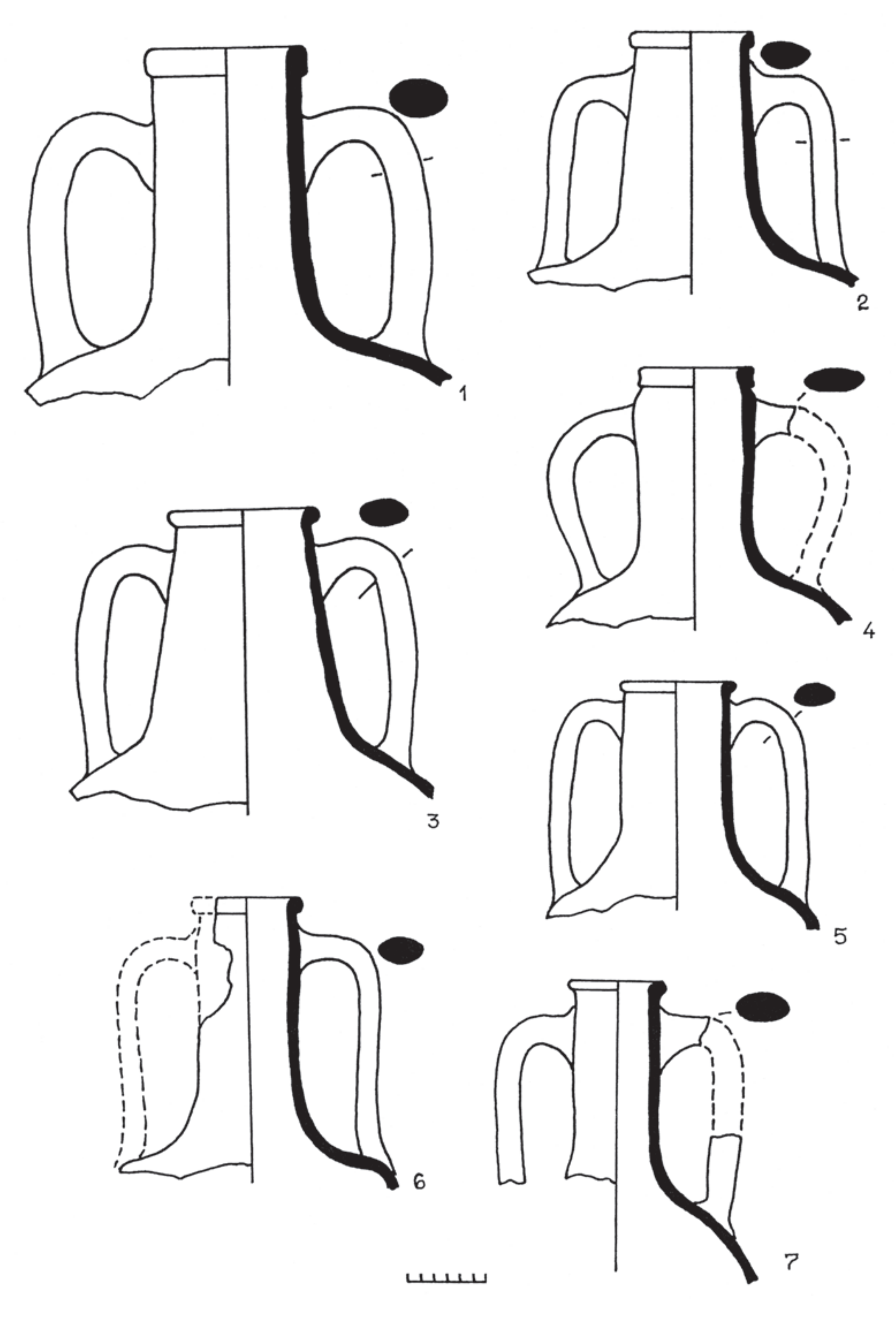


Fig. 2. Pottery finds from the cistern: amphoras.

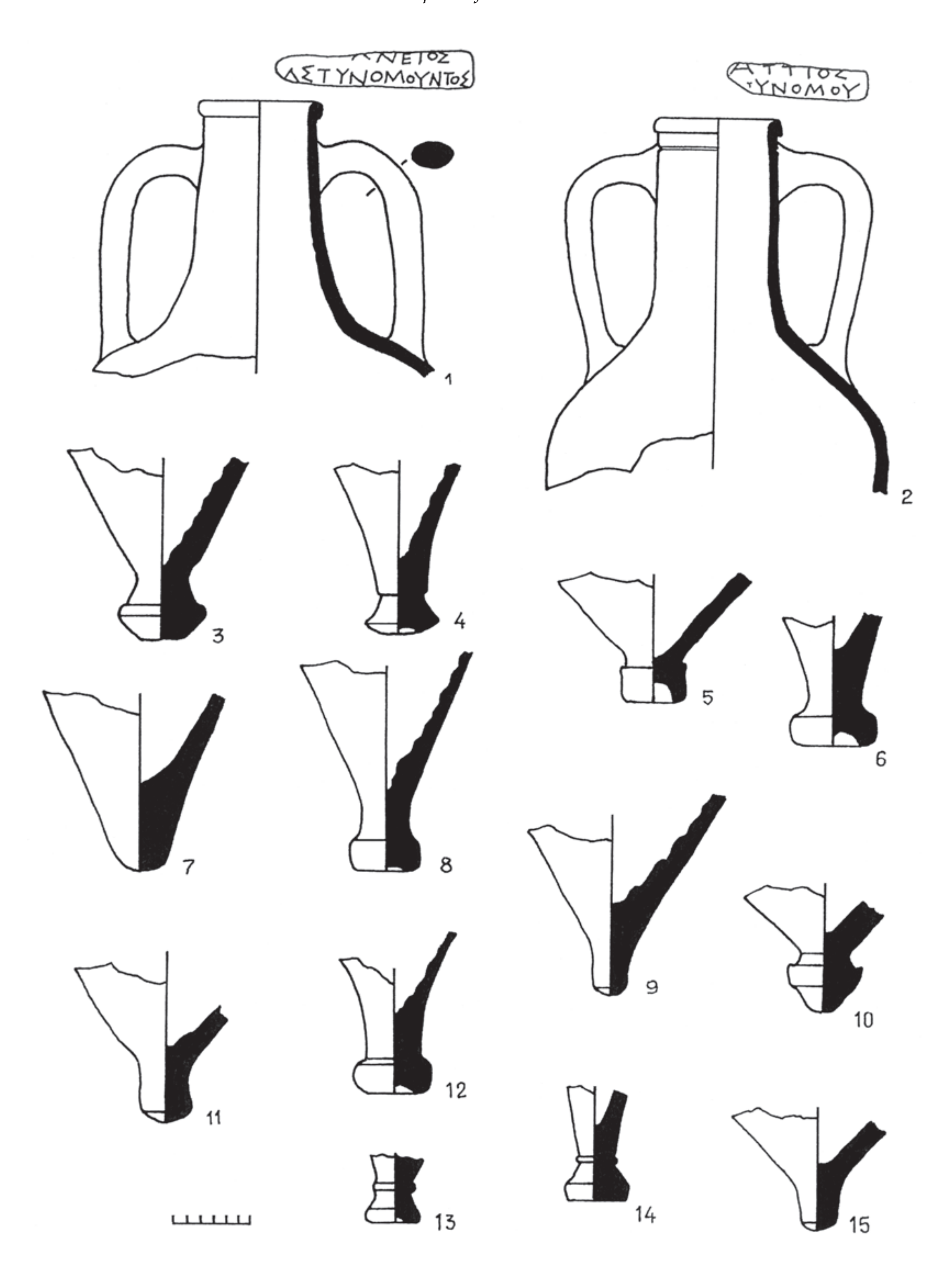


Fig. 3. Pottery finds from the cistern: amphoras.

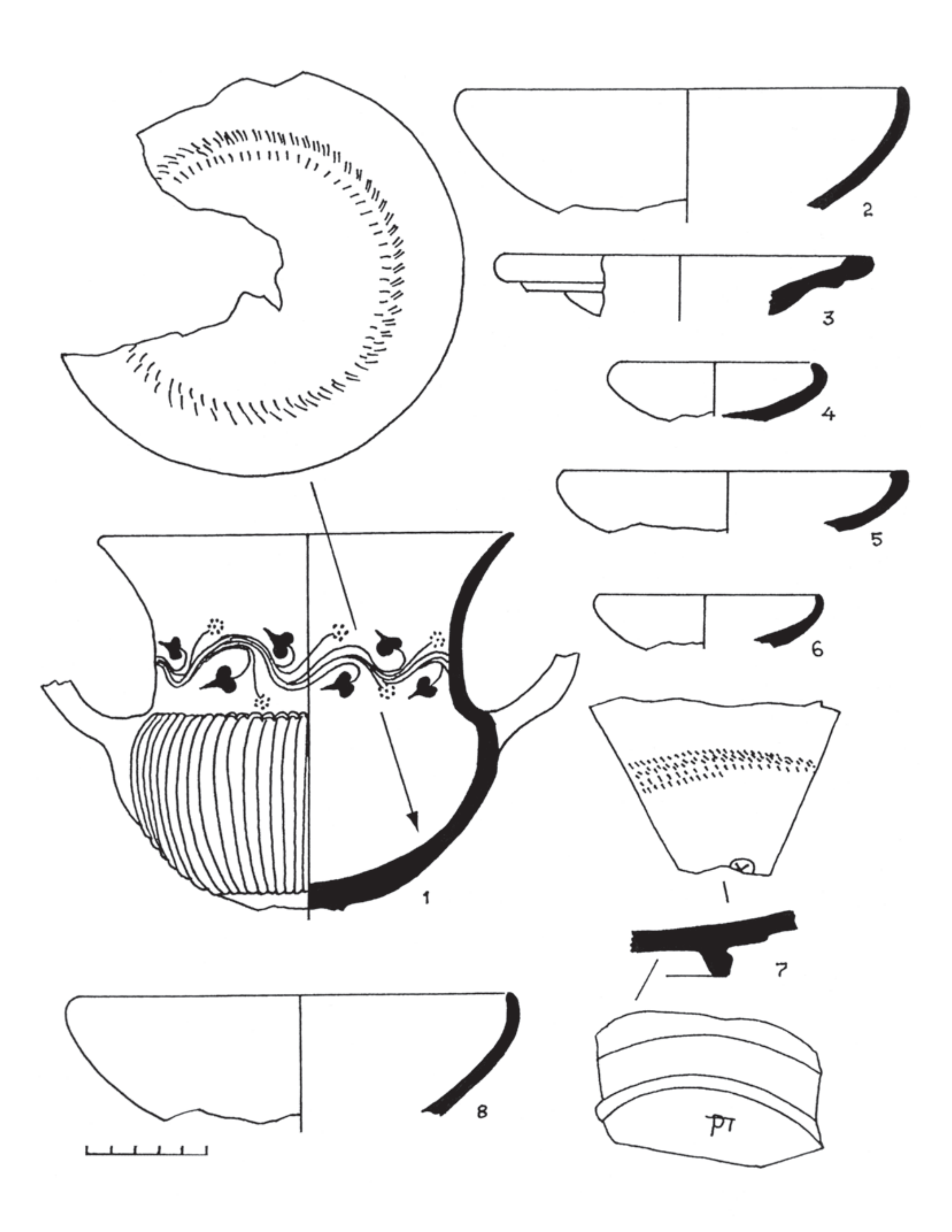


Fig. 4. Pottery finds from the cistern: black-glazed ware.

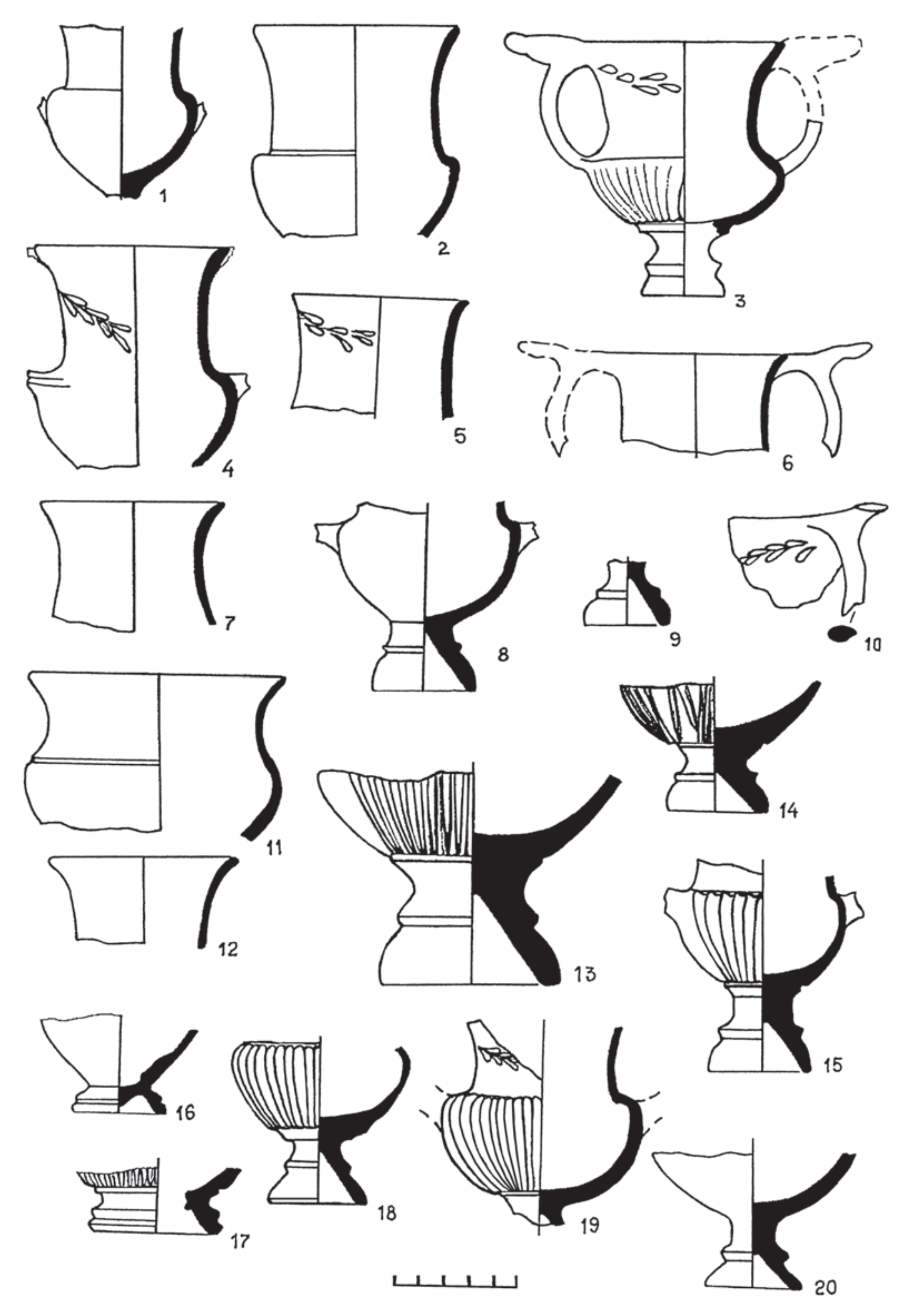


Fig. 5. Pottery finds from the cistern: black-glazed ware.

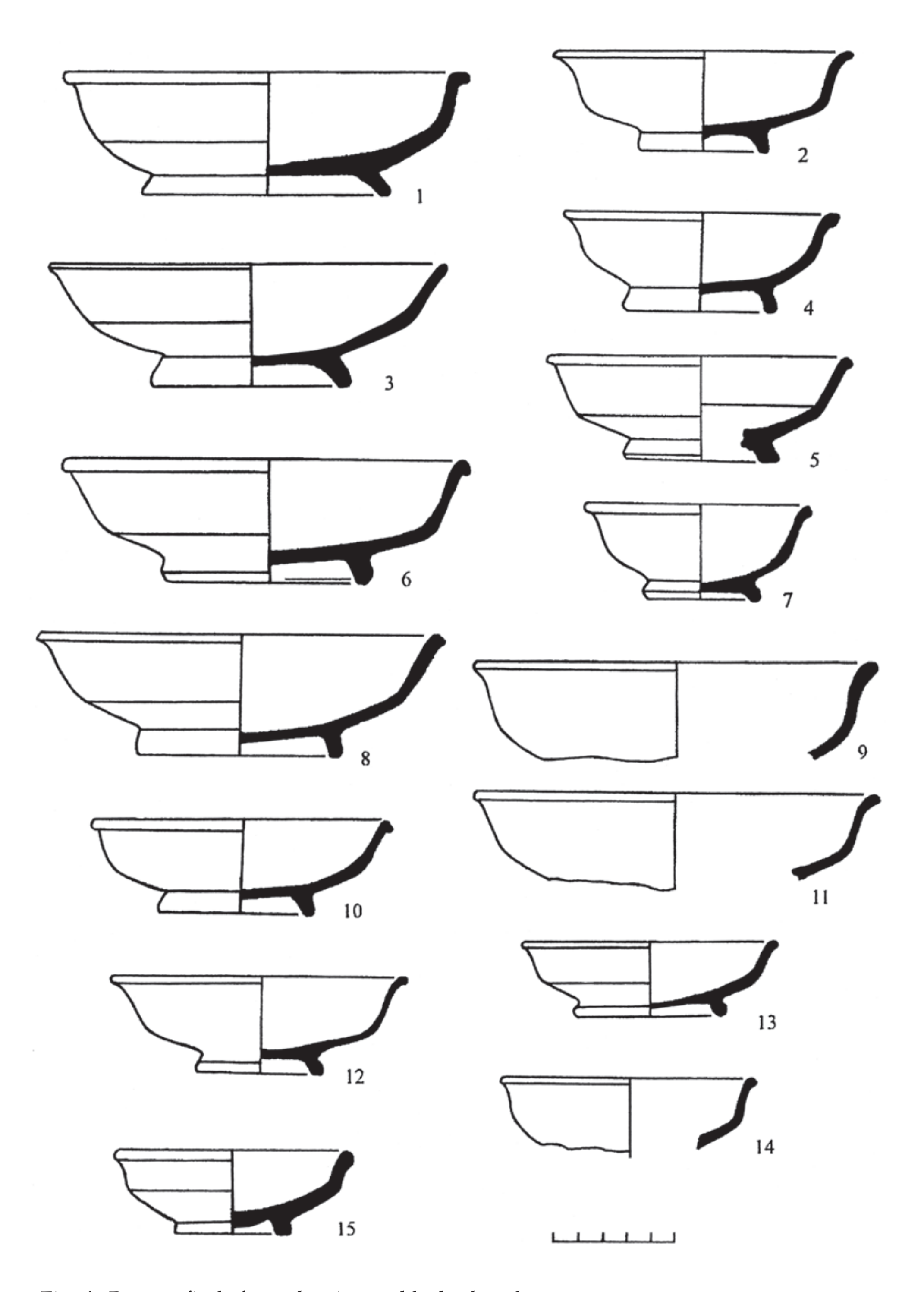


Fig. 6. Pottery finds from the cistern: black-glazed ware.

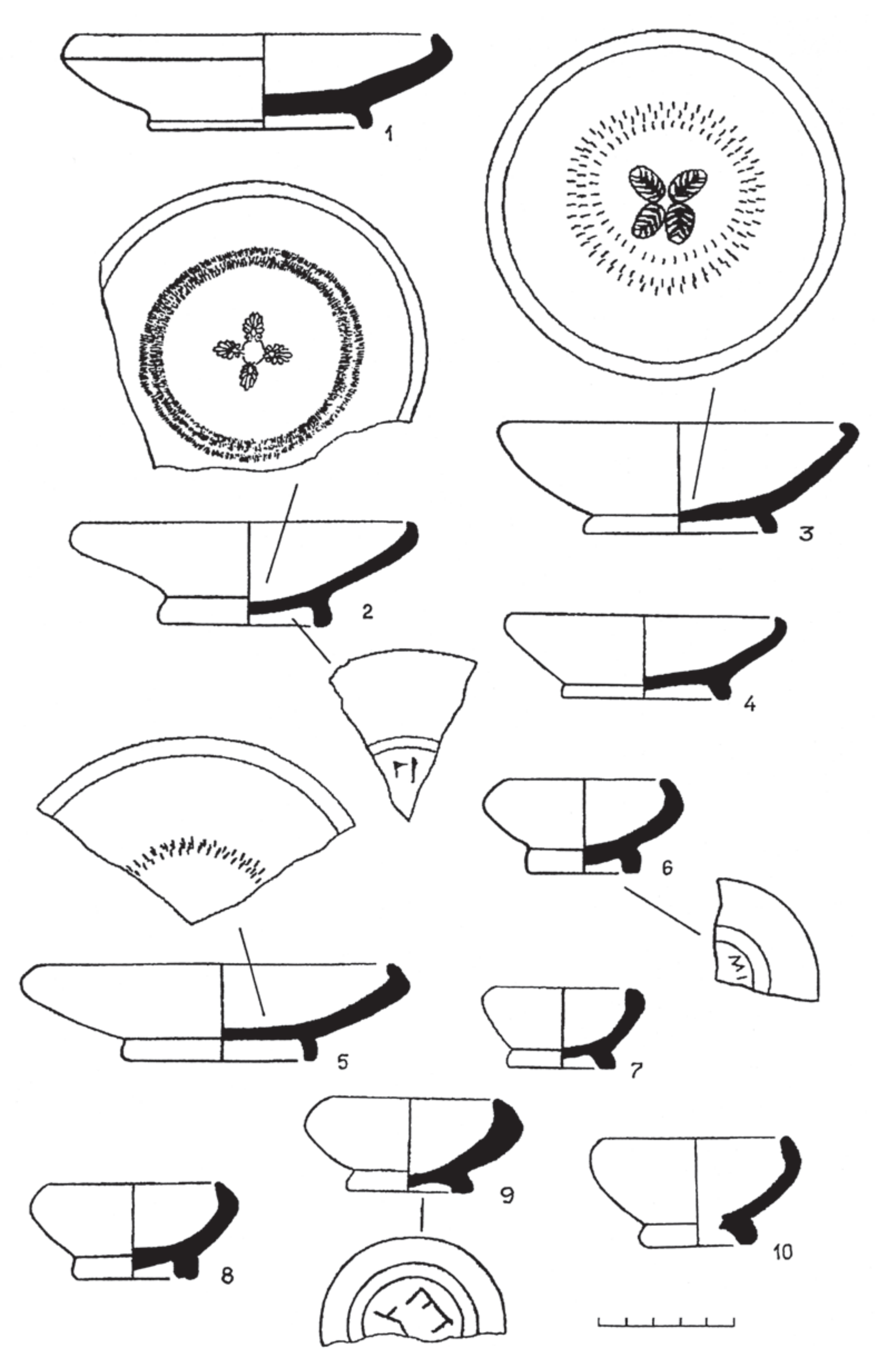


Fig. 7. Pottery finds from the cistern: black-glazed ware.

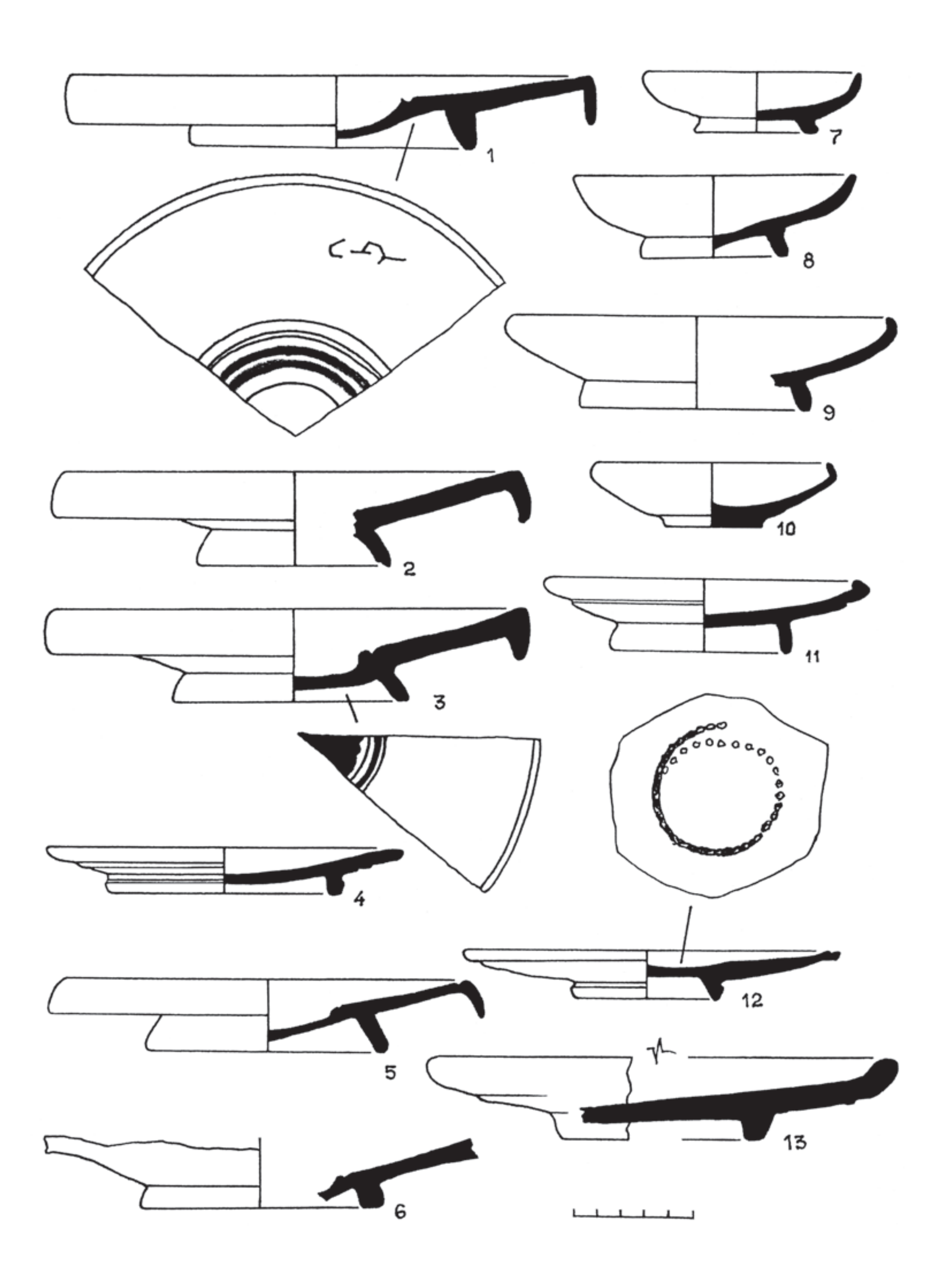


Fig. 8. Pottery finds from the cistern: black-glazed ware.

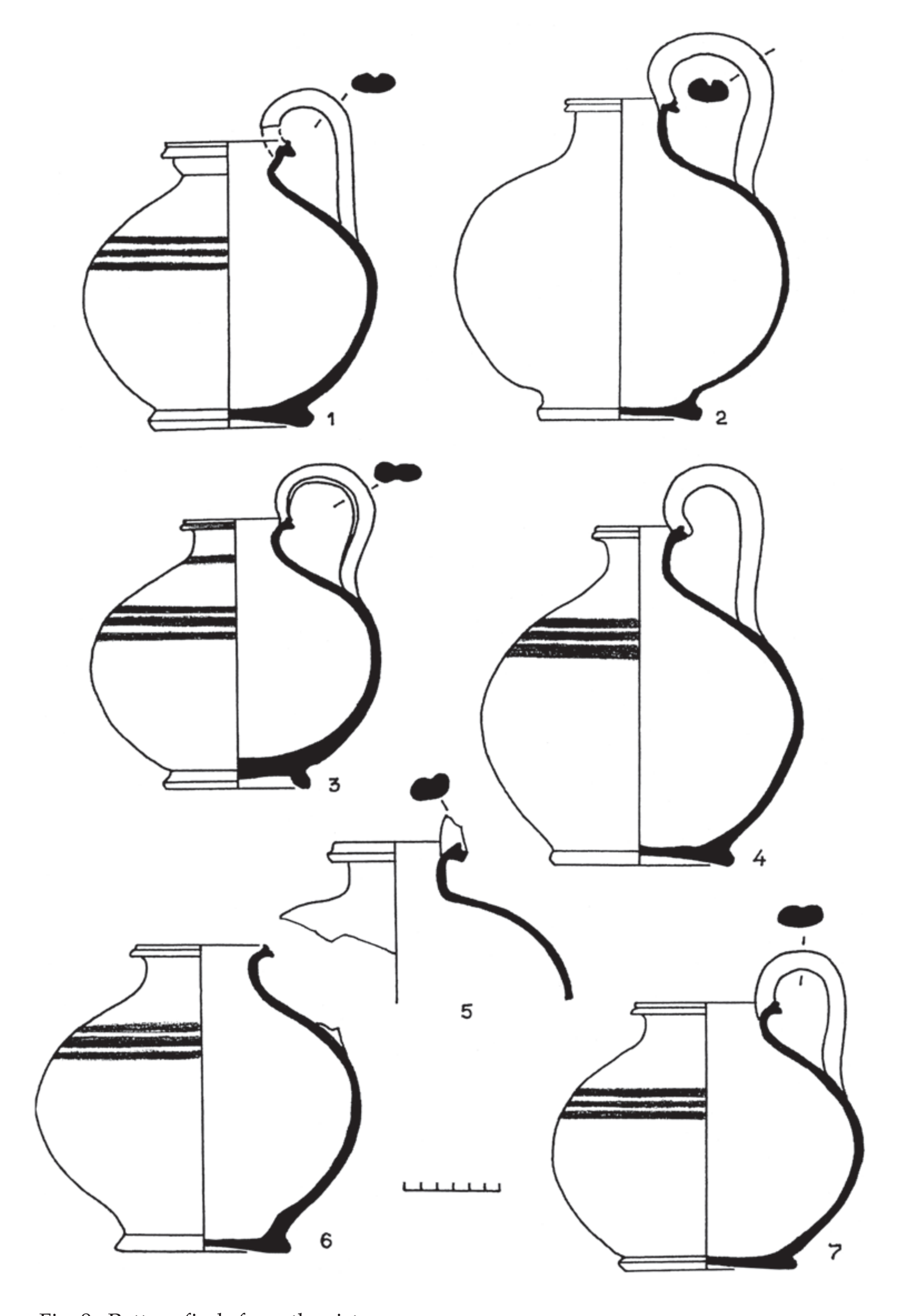


Fig. 9. Pottery finds from the cistern: commonware.

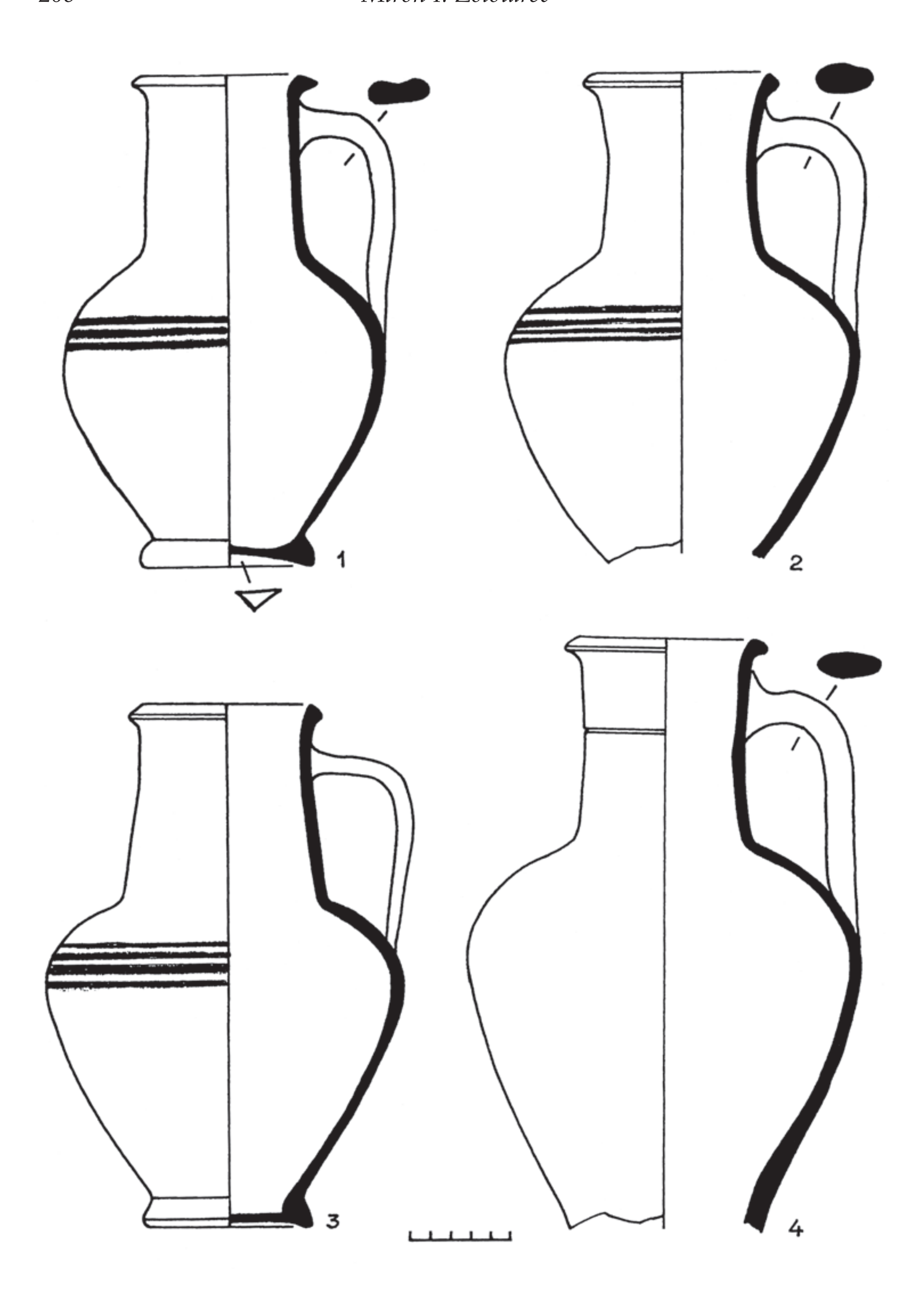


Fig. 10. Pottery finds from the cistern: commonware.

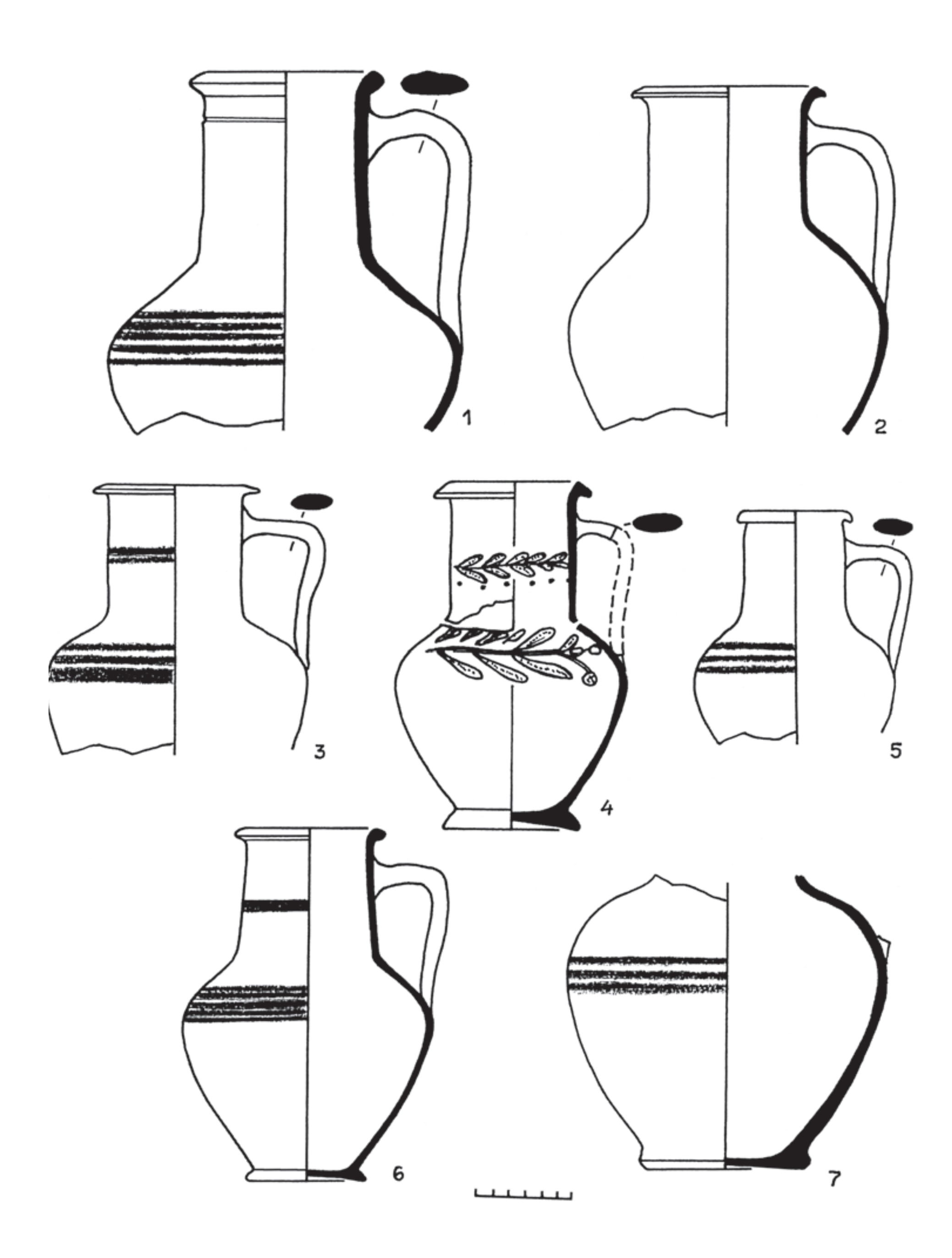


Fig. 11. Pottery finds from the cistern: commonware.

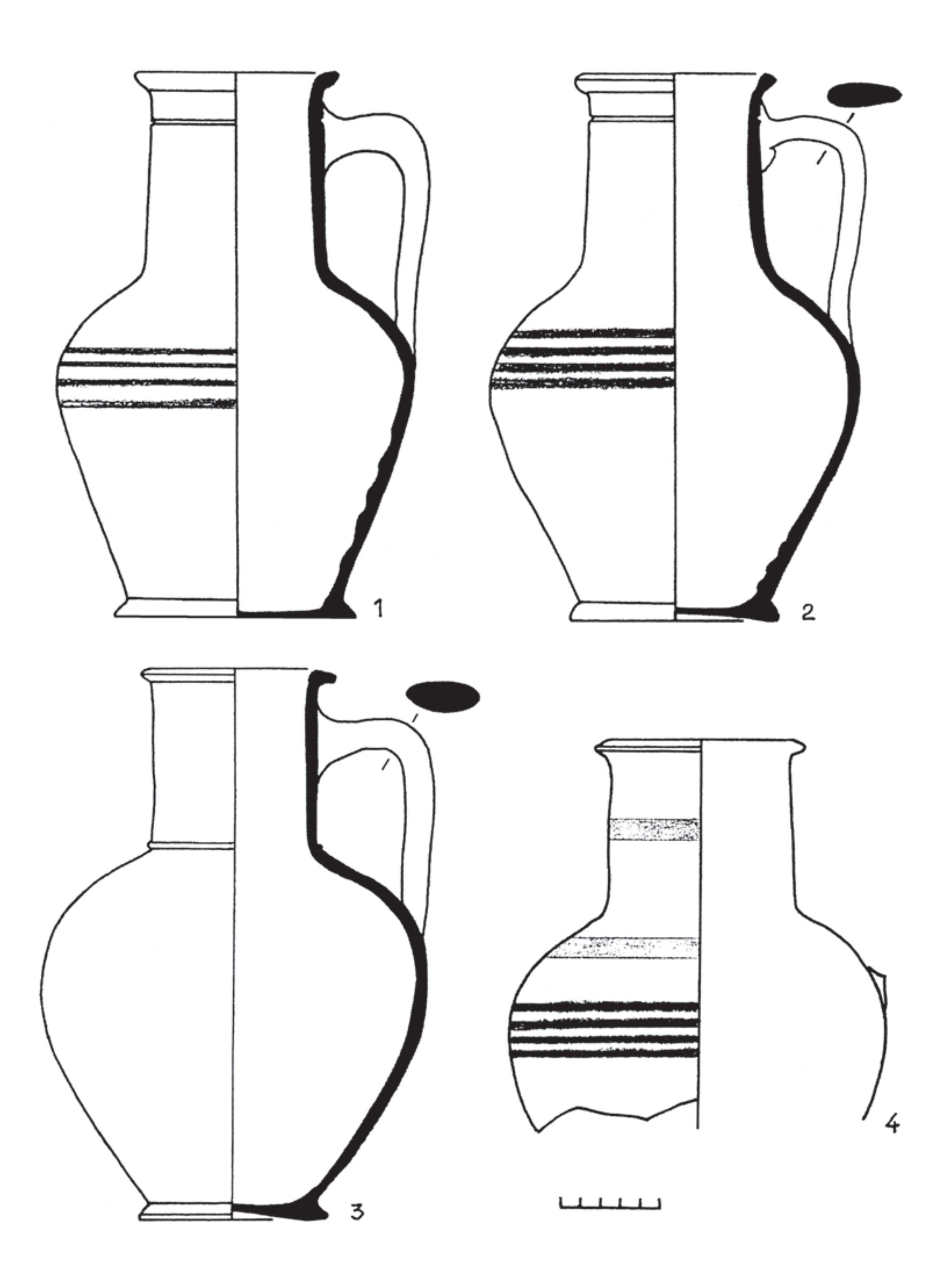


Fig. 12. Pottery finds from the cistern: commonware.

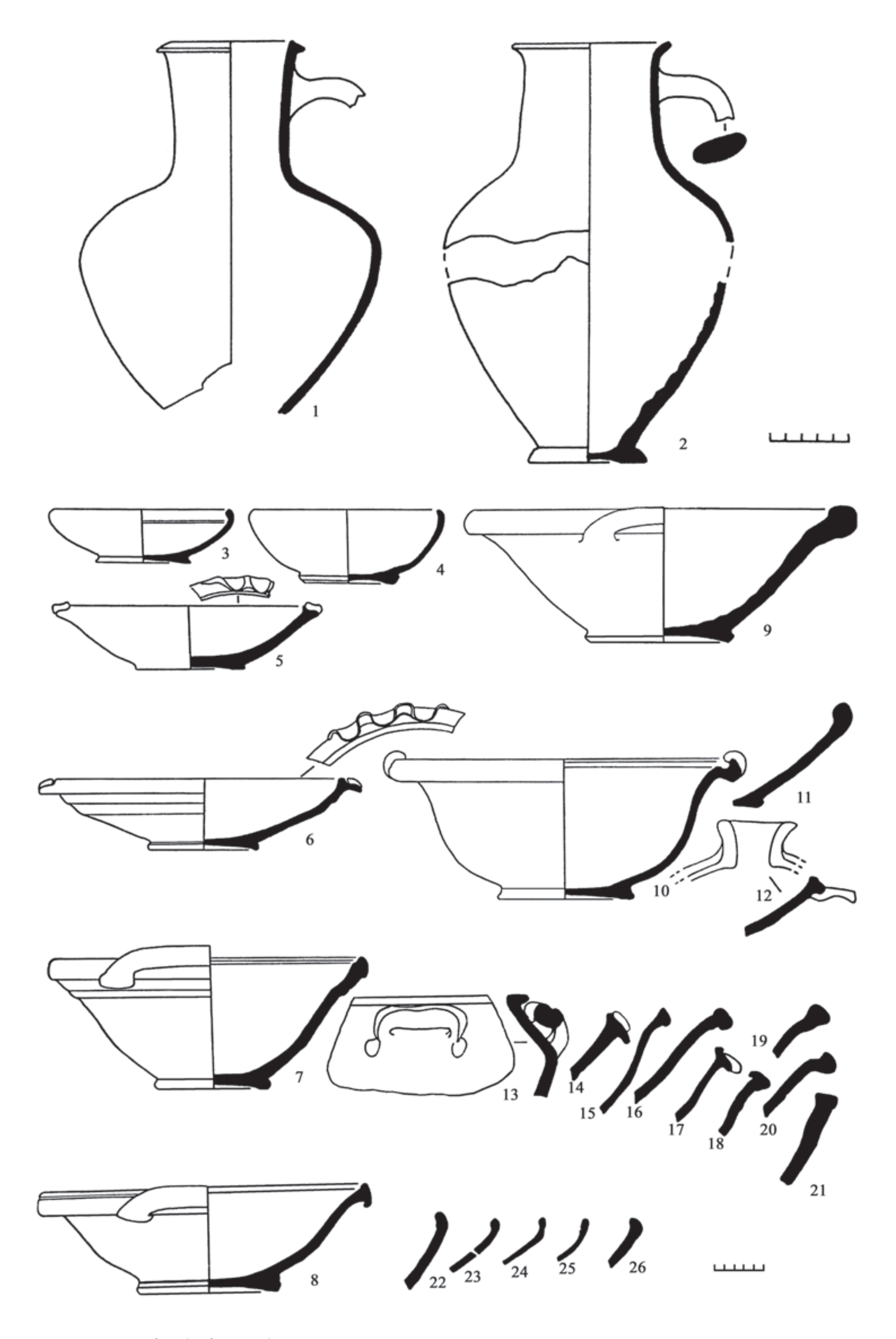


Fig. 13. Pottery finds from the cistern: commonware.

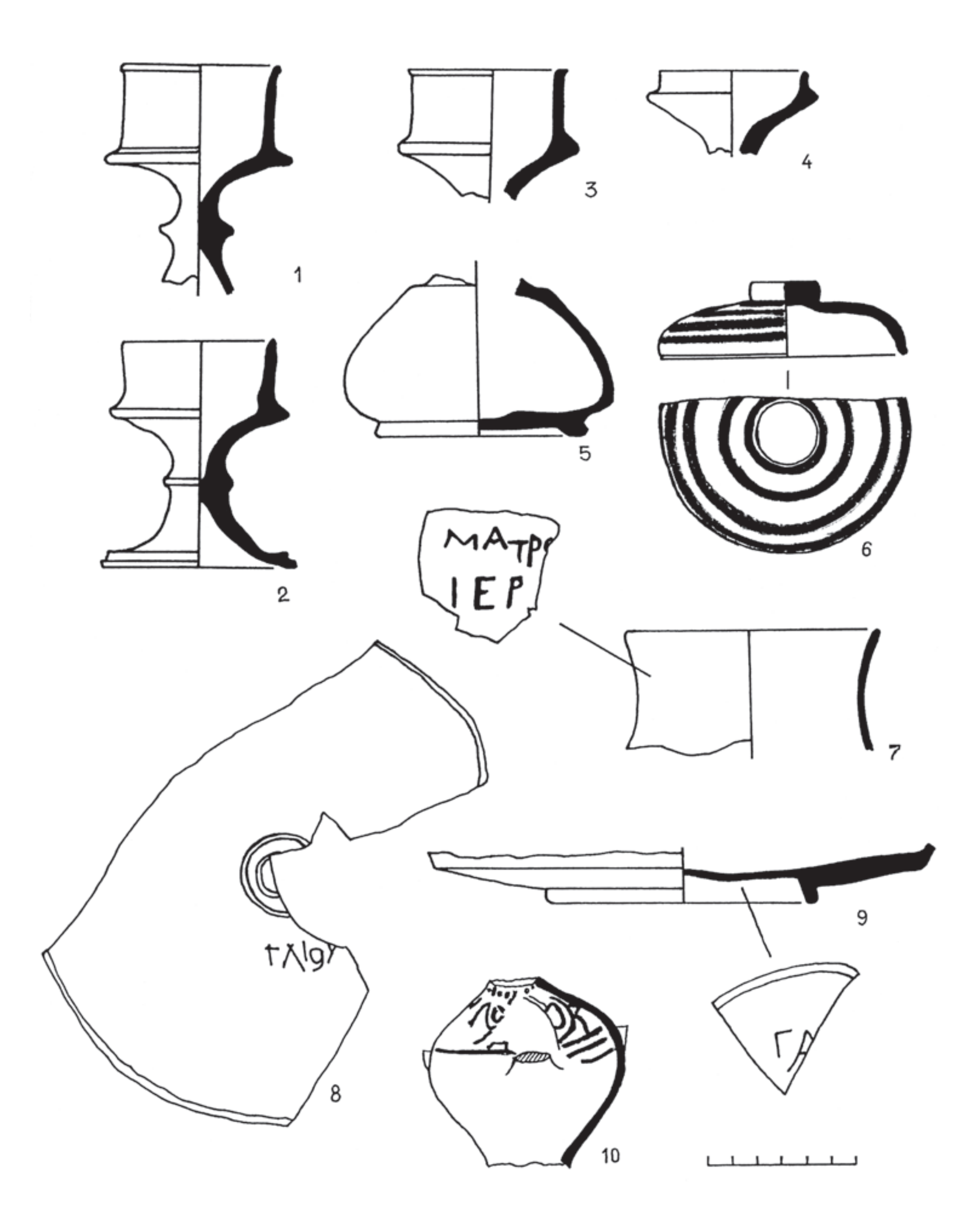


Fig. 14. Pottery finds from the cistern: thymiateria, black-glazed ware, and inscriptions on pottery.

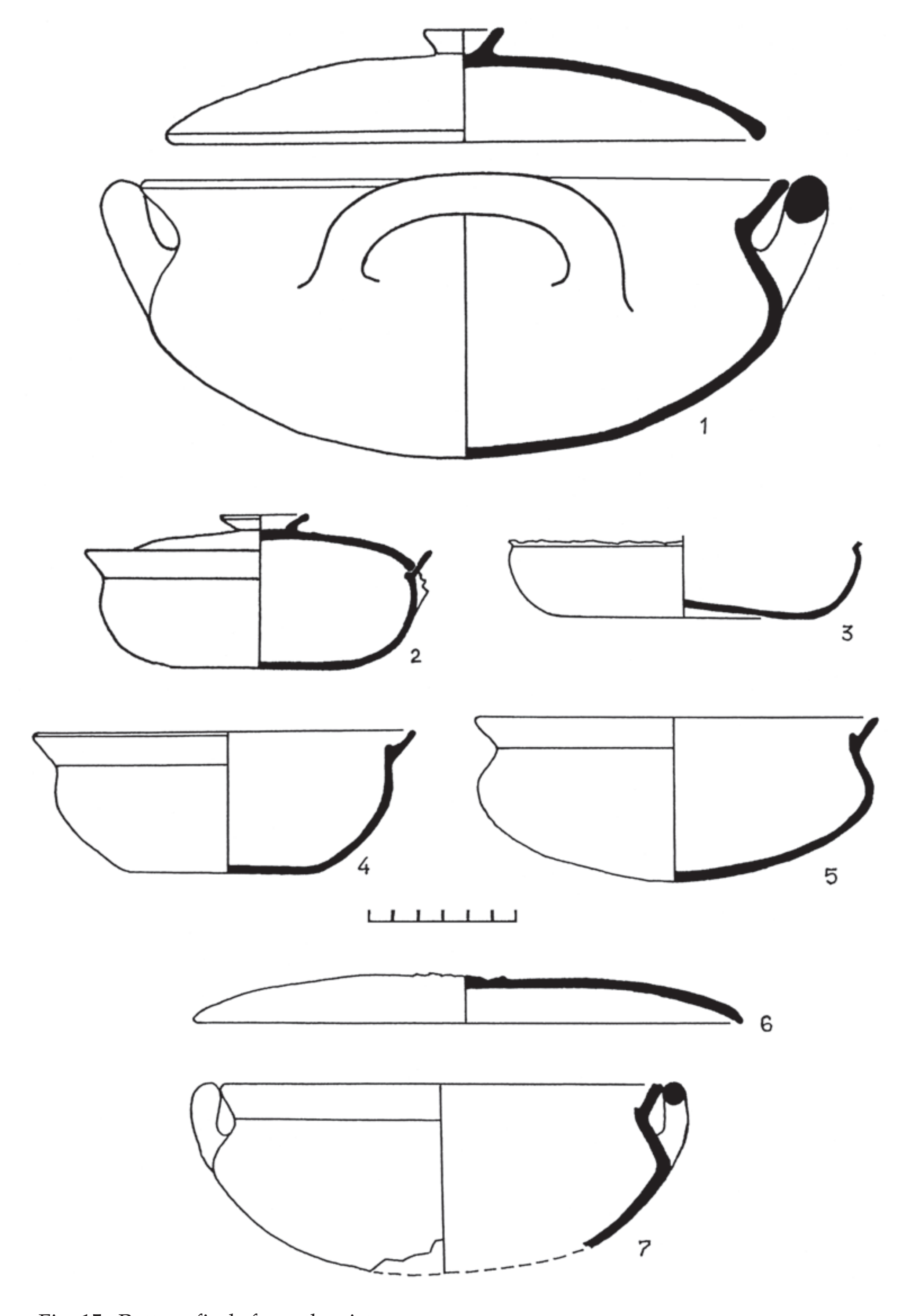


Fig. 15. Pottery finds from the cistern: commonware.

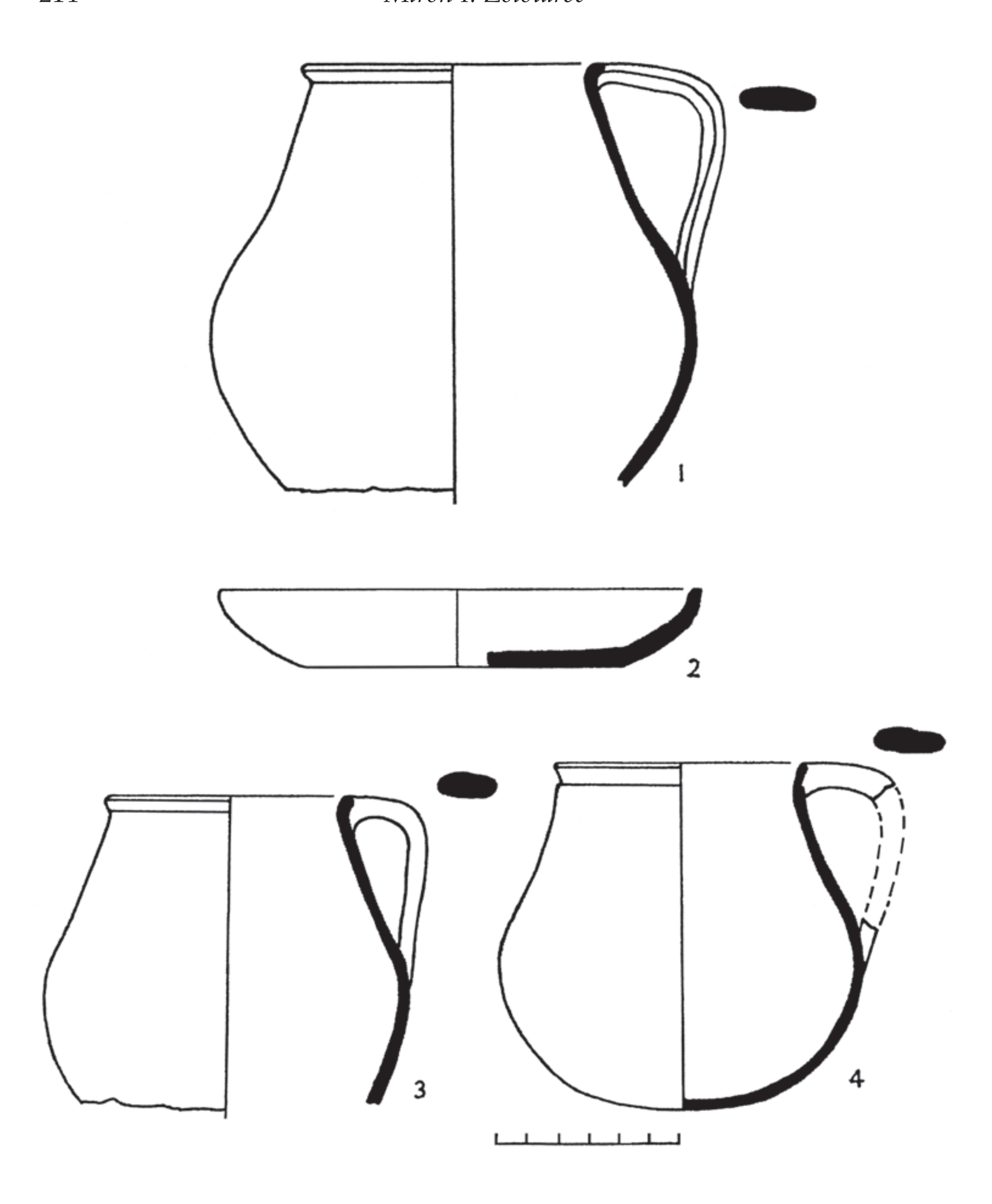


Fig. 16. Pottery finds from the cistern: commonware.

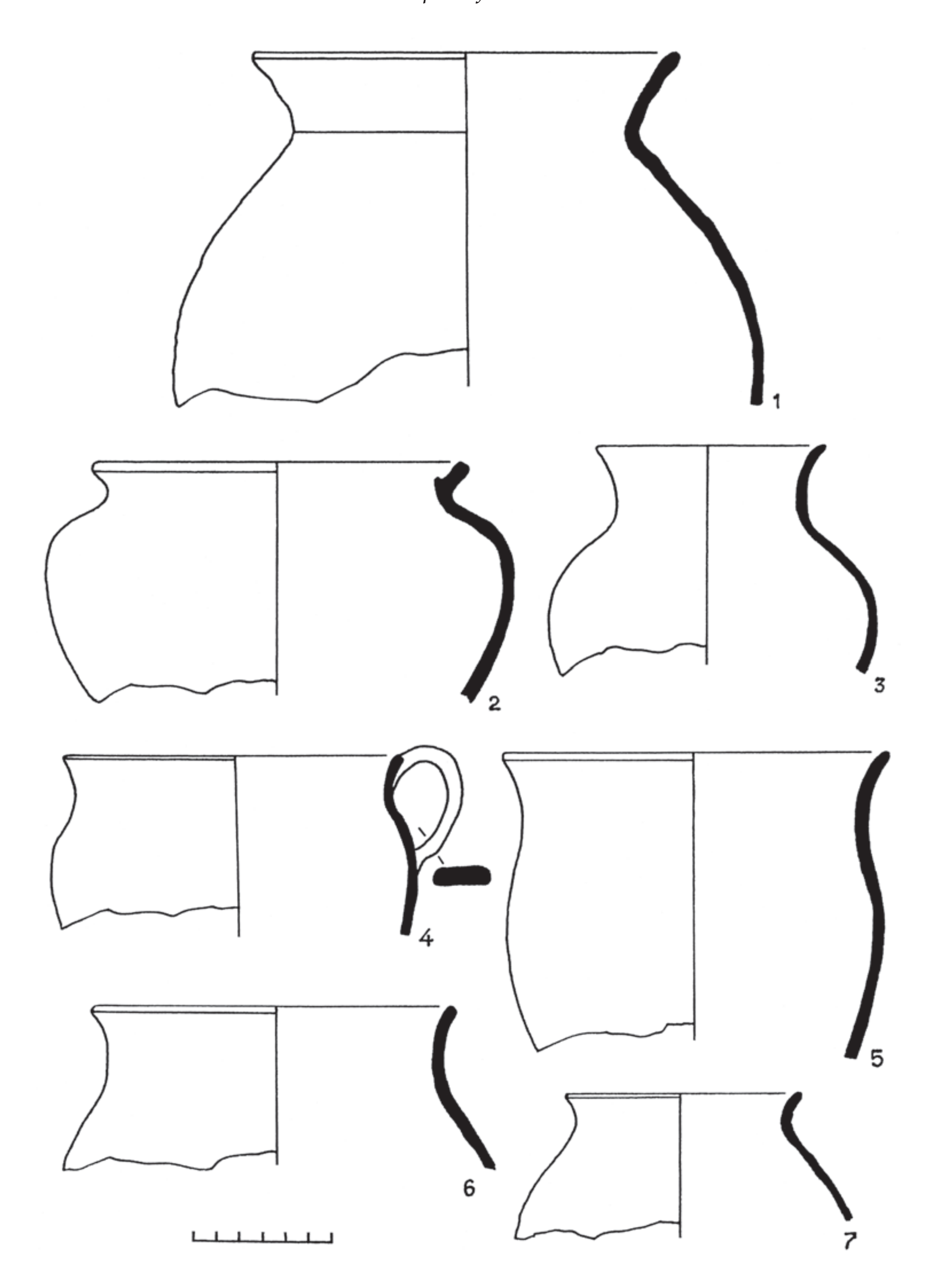


Fig. 17. Pottery finds from the cistern: handmade ware.

Notes

1 Zolotarev, Ušakov & Korobkov 1991.
2 Dinsmoor 1961, 359-360; Büsing 1982, 9.
3 Monachov 1989a, 51-59.
4 Monachov 1989a, 62-63.
5 Monachov 1992, 181; Whitbread 1995b, 234.
6 Soznik & Cecchladze 1991, 64-65.
7 Kac 1994, 27-37, 77-78.
8 Kac 1985, 108; 1994, 50.
9 Kac 1985, 108; 1994, 50-51.
10 Kac 1985, 108; 1994, 51.
11 Kac 1985, 110; 1994, 64.
12 Kac 1994, 76.
13 Grakov 1929, 137-141.
14 Grakov 1929, 140, 145.
15 Kac & Fedoseev 1986, 99.
16 Conovici 1998, 51. Cf. Conovici, Avram & Poenaru-Bordea 1989, 113, 117, where the authors prefer a somewhat earlier date (284-262 BC).
17 It has been possible to completely restore several of them.
18 Hannestad, Stolba & Hastrup 2002, pls. 62-63, 70; Parovič-Pešikan 1974, 76, 78, figs. 74-75.
19 Rotroff 1997a, nos. 979 (325-300 BC), 984 (310-300 BC), 1076 (325-300 BC), 1082 (300-275 BC), 1088 (275-250 BC), 885 (250-225 BC), 909 (260 BC), 911 (250-225 BC).
20 Solomonik 1973, 171-173, no. 166; Kac 1985, 108, 110.
21 Chrzanovsky & Zhuravlev 1998, 43-44 (no. 10).
22 For a very close parallel, see Ščeglov 2002a, 222, pls. 146-147, G 7-G 10, who calls them "portable ceramic altars" – *Eds*.
23 Zeest & Marčenko 1962, 157-159; Kašaev 2002, 158-160, pls. 99-101.
24 Chrzanovsky & Zhuravlev 1998, 57.
25 Zhuravlev 2000.
26 Rotroff 1982, 10-13; Kovalenko 1989, 21-23.
27 Thompson 1934.

The Chronology of Settlements in the Lower Dnieper Region (400-100 BC)

Valeria P. Bylkova

The Lower Dnieper region was settled by several population groups in the period under review. The creation of a unified chronology and a division into periods for the settlements of the Lower Dnieper region has been made possible as a result of the expansion of archaeological efforts in the 1980s and 1990s. Based on recent advances in dating, the analysis of new archaeological evidence and the revision of results derived from earlier materials is thus an important task.[1]

The chronology for the settlements in the region is based on the stratigraphy (although stratigraphical observations are complicated by the poor state of preservation of the cultural layer) and typology of the material culture. The chronological indicators are primarily ceramic, (amphora and tile stamps, imported pottery), but coins and fibulae also play a role.

The correlation of the stratigraphy and the chronology of the artefacts themselves are difficult, since we do not have at our disposal archaeological data from excavation in every settlement. But excavations have been conducted within every group of settlements known in this territory in the period under consideration, and the results may be accepted as representative in so far as no discrepancies have been revealed in the data from excavations and surveys. Specifically, we can use materials from the settlements Usad'ba Litvinenko (Stanislav 2), Glubokaja Pristan' (Sofievka 2) and Belozerskoe, located in territories to the east of the boundary of the Olbian *chora* of the Archaic period (Fig. 1). Out of eight excavated settlements in the inner Scythian lands of the Lower Dnieper we can select four in which fairly large areas were excavated in the 1980s-1990s – Pervomaevka 2, Černeča (Pervomaevka 3), Lysaja Gora, Kamenskoe (Fig. 1). As for the Late Scythian settlements (of which there are 15), the most complete data come from five of them – Znamenskoe, Zolotaja Balka, Gavrilovskoe, Annovskoe, Ljubimovskoe (Fig. 1).

Three settlements in the eastern part of the rural territory of Olbia offer much greater possibilities in this regard than synchronous Scythian sites in the inner territory. For Usad'ba Litvinenko we can use data from the excavations by M. Abikulova[2] and by the author of this article in 1990.[3] Stratigraphically we can clearly differentiate an early layer of yellow clay with several dug-out structures and a later layer of grey clay with above-ground dwellings and pits. Structures from the first building period contained a fill of pure clay without

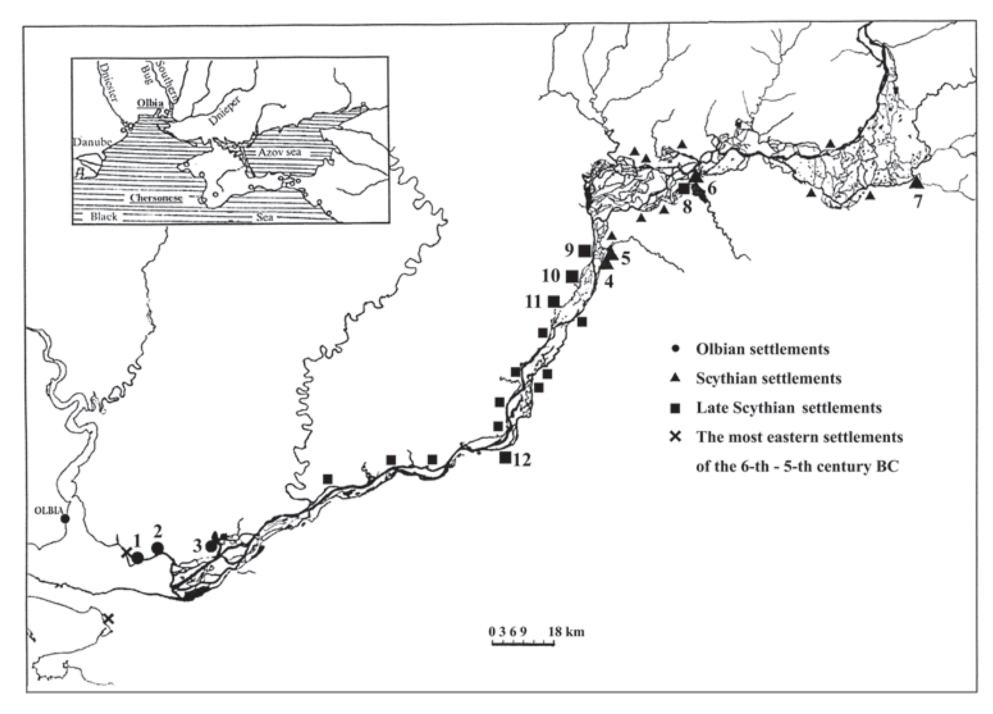


Fig. 1. Settlements in the Lower Dnieper region: 1) Usad'ba Litvinenko (Stanislav 2); 2) Glubokaja Pristan' (Sofievka 2); 3) Belozerskoe; 4) Pervomaevka 2; 5) Černeča (Pervomaevka 3); 6) Kamenskoe; 7) Lysaja Gora; 8) Znamenskoe; 9) Zolotaja Balka; 10) Gavrilovskoe; 11) Annovskoe; 12) Ljubimovskoe.

any artefacts. The earliest chronological indicator in the cultural layer is a Herakleian stamp ΑΦΑΙΣ|ΤΙΩΝ (in two lines) of the 1st group, dating to the first quarter of the 4th century BC.[4] Two stamps of the same group with the fabricants' names, ΑΡΧΕΛΑΣ and ΕΥΡΥΔΑΜΟΣ, were found in the fill of an ancient ravine. Such a combination of stamps is known from grave 64 of the Olbian necropolis, dating to 390 or the early 380s[5] and in an Olbian deposit discovered in 1947, and containing the same range of amphoras as the ravine fill – Thasian, Herakleian, Chian, and Murighiol type (Fig. 2.1-17). The date suggested for the Olbian depot of 1947 was in the 380s-370s[6] or the end of the 390s BC.[7] Contemporary with the stamps are vessels of Olbian production, consisting of cup-kantharoi (Fig. 2.20) from the end of the 5th century BC-first quarter of the 4th.[8] The mass of material in the cultural layer (including that from the first limited investigations by A.P. Mancevič, who discovered this settlement in 1947) is from the 4th century BC.[9] Amphora stamps are also encountered in a storage complex outside the settlement – there are two Herakleian amphoras with stamps ΕΥΦ[ΡΑΙΟΣ]|ΕΠΙ ΑΝΔΡΟΝΙ and ΜΥΣ ΕΠΙ|ΑΝΔΡΟΝΙ from the early third quarter of the 4th century, together with amphoras from Peparethos with letter-stamps.[10] In storage pit 11 of the second

building period were found: Chian cap-toes of the late amphora type[11] dated by M. Lawall to c. 300 BC; a Chersonesean stamp belonging to Group 1A from the 290s in V.I. Kac's classification, with the magistrate's name Agasikles;[12] several fragments of black-glazed kantharoi dating to the last third of the 4th century down to 300 BC;[13] and sherds of Thasian and Herakleian amphoras (Fig. 3.3-9). Synchronous types of amphoras and black-glazed vessels are encountered in the stratigraphically synchronous pit 13 (Fig. 3.10-15). On the floor of a dwelling destroyed by fire a stamped Chersonesean amphora (Fig. 3.1) was found *in situ*, with the name of Herodotos, one of the last magistrates in the 1st chronological group – 300-285 BC.[14] Thus, it appears that the settlement Usad'ba Litvinenko sprang up early in the 4th century BC, underwent reconstruction, probably at the end of the third quarter or early in the fourth quarter of the 4th century BC, and ceased to exist in the 280s BC. The archaic date for Usad'ba Litvinenko proposed by M.I. Abikulova[15] has not been confirmed.

The fortified settlement of Glubokaja Pristan' is situated to the east of Usad'ba Litvinenko. It was excavated by I.D. Ratner in 1950 and S.B. Bujskich in 1988-1991 (in 1991 together with the author of this article). Stratigraphically, the early yellow clay layer and the later grey clay layer with ash are differentiated. In several cases the lowest thin layer, identified as the remains of the levelled ancient surface, can be distinguished.[16] The early layer contains material from the first third of the 4th century BC, including a partly preserved Herakleian stamp of the 1st chronological group.[17] Finds of fragments of the Type-1 amphoras of Herakleia and early stamps, i.e. materials from the first quarter of the 4th century, are characteristic of the initial period of life in the settlement. Two Herakleian stamps were found above the floor of a dwelling in excavation area 9[18] – one of the first group, with the name ΣΩΤΕΡΟΣ in two lines,[19] dating to 390-380s,[20] and another with the name ΑΛΚΕΤΑΣ, a magistrate of the second half of the 370s.[21] There are isolated finds which do not belong to the 4th century BC. A decorated boar's tusk from a *zol'nik* (accumulation of ash) stands out from all the other finds by reason of its stylistic details and its early date, the end of the 6th-first half of the 5th centuries BC.[22] An Olbian cast "aes" dating to the second half of the 5th century BC was found in the fill of a ditch.[23] The toe of an Aeolian amphora (Fig. 4.15) – of the 5th century BC type[24] was found in pit 12 (1991). These finds cannot be linked with the general mass of artefacts, which come from the 4th century BC (Figs. 4 and 5), and mainly from the second and third quarters. To the small number of stamps from excavations we can add a chance find, made in 2002, of several amphoras. They include a Herakleian amphora stamped by ΣΩΤΕΡΟΣ | ΕΠΙ ΑΡΙΣΤΩ, dating to the second quarter of the 4th century BC.[25]

The last phase of occupation on the site is indicated by objects and finds from the end of the 4th-beginning of the 3rd centuries BC. A black-glazed kantharos with plain rim, spur handles, ribbed lower body and upper wall decorated with a simple garland of leaves applied in thinned clay over the

glaze (Fig. 5.1), dating from the last quarter of the 4th-first quarter of the 3rd century BC[26] and unguentaria, decorated with bands of dark red paint (Fig. 5.4), which in the northwest region of the Black Sea coast are found alongside materials from the end of the 4th century BC-first quarter of the 3rd,[27] were encountered in a dwelling surrounded by pits (excavation area 1, 1950). In the fill of semi-pit house 23 a Chersonesean stamp was found with the name Agathon Gnathonos, which occurs at the beginning of Group 2A, of the 280s BC.[28] There is a mention of the find of a Sinopean stamp of Demetrios[29] belonging to the beginning of the 4th chronological group dated 300-280 BC[30] or the early 270s;[31] the Herakleian stamp ETY | MOY of the last decades of the 4th century BC[32] is represented,[33] and a find of an Olbian "Borysthenes" coin is also mentioned.[34] Thus, the fortified settlement of Glubokaja Pristan' was founded at the beginning of the 4th century BC and existed until the early 70s of the 3rd century BC. In the opinion of S.B. Bujskich a first reconstruction occurred approximately in the middle of the 4th century and a general reconstruction is observed in all the excavations in, roughly, the early fourth quarter of the 4th century BC.

The settlement of Belozerskoe was excavated by the author in 1989, 1991-1993, 1995, 1997-1999, and 2001-2002. On the whole one can distinguish a layer of yellow clay lying directly on the subsoil, a layer of brick and stone debris, and, above them, a dark, disturbed layer. In cases where an ash-filled layer overlies the clay, its formation is connected with the levelling of the sector prior to new construction works. The earliest layer, lying directly on the subsoil, is a layer of quite dense yellow clay, containing almost no finds. In those cases where it was possible to identify undisturbed sections of the yellow clay layer, they contained only small, isolated fragments of pottery and bone. This makes it difficult to establish the date of the foundation of the settlement. No early Herakleian stamps have been found, but fragments of Type-1 amphoras are represented, and there are isolated fragments of Murighiol-type amphoras, which date to the first, or more rarely to the second quarter, of the 4th century BC[35] (Fig. 7). Chian import may aid in establishing chronology because of its predominance (30%). Fragments of early Chian straight-necked amphoras with conical cuff toes from the first decades of the 4th century (dated 390-380 by Lawall) are also found (Fig. 6.1). There are only a few sherds that could be of an earlier date. The earliest dates are provided by the few small toes of the late bulging-necked Chian amphoras, which are usually dated to the third quarter of the 5th century BC.[36] One toe was found in a pit with sherds of Sinopean roof tiles. It is small and short and hollow, but the hole is simple, and the edge of the hole is not incurved (Fig. 6.2). The colour of the clay is 5YR 6/6 on the Munsell chart, and the clay itself has dark, white, and micaceous inclusions. We cannot use such isolated fragments as evidence for the date at which life began in this settlement. We can observe a similar situation in the settlement of Novo-Fedorovka in the Crimea – Chian amphoras of the same type are found, though the main mass of material is dated to the second half of

the 4th century BC.[37] In Chersonesos the late bulging-necked Chian amphoras are encountered in the layer C-1 along with Chian cap-toed amphoras and early types of Thasian and Herakleian amphoras.[38] It has been noted that the late bulging-necked Chian amphoras are met in Olbia, in various complexes dating to the second half of the 5th century BC, and they are one of the most widespread groups, whereas early straight-necked Chian amphoras are represented in relatively small numbers.[39] The earliest dates provided by the coins which have been found in the settlement, Olbian cast specimens with a gorgoneion, are possibly 438-420 and 400-380.[40] The first date can only be established by taking into consideration the report of M. Dmitrenko in 1946 on the finds of two cast coins with a gorgoneion together with Solocha 2 type amphoras on the floor of a dug-out. The coins themselves, however, have not been preserved. The earliest coin from my excavation suggests a date of 400-380[41] for the stratigraphically early pit 57 (1999), while copper coins from the 380-350s are found in dwellings.

The upper layer has been destroyed by ploughing. Late stamps were found during surface investigations, but they relate directly to the destroyed cultural layer. There is a Chersonesean stamp which belongs to Group 1 dated to 325-285 BC, with the name of the magistrate Herodotos of the 280s according to Kac[42] and a Knidian stamp with a "prow" of 305-280.[43] Two similar stamps from Herakleia, with the name ETY|MOC, showing a lunate sigma, belong to the last decades of the 4th century BC.[44] It is interesting that, despite the large number of Sinopean stamps overall, they are not represented in the layer of the last period. Chian cap-toed amphoras of the very late 4th-early 3rd centuries BC are encountered in pits (Fig. 6.7) and in the upper cultural layer, along with Knidian amphoras of the same date (Fig. 7.3). Types from the beginning of the 3rd century BC are represented amongst the large collection of Koan amphora fragments (Fig. 7.4). Contemporary with the types of amphoras mentioned above are black-glazed kantharoi with thin rims and bodies that are not completely ribbed. They have a thin clay decoration in the form of simple garlands of leaves on the upper part (Fig. 8.17).[45] The coins of the last period are "Borysthenoi" from 300-280 BC.[46] They are found singly in the upper layer, among the ploughed-over material, and in a hoard. Their date coincides with that of the Chersonesean stamp. Thus, we have evidence indicating that life here ceased in the 280s BC.

The greater part of the material obtained from the deposits and the layers of the pre-reconstruction and reconstruction period dates to the second and third quarters of the 4th century BC.[47] This is true for all the stamps from a cultural layer. V.I. Kac, in a letter to the author dated Oct. 12 1994, proposes a date in the middle of the 4th century BC for the following Herakleian stamps: ΜΑΛΑΚΩΝ| unclear emblem| ΗΡΑΚΛΕΔΑΣ (this is identified as a new die); ΕΠΙ ΚΑΡΑΚΥΔΕΟΣ ΔΑΜΟ around a bunch of grapes; ΙΑΚΧΟΥ ΕΠΙ | caduceus| ΦΟΚΡΙΤΟΣ. Kac has attributed to the third quarter of the 4th century BC the Herakleian stamps ΤΙΜΩΛΥ| caduceus| ΣΠΙΝΘΑ (a new die);

ΣΤΡΟΥ | caduceus | ΘΕΥΜ; ΜΥΟΣ | caduceus | ΣΠΙΝΘΑΡΟ; ΜΑΤΡΙΟΣ | bunch of grapes | ΘΕΟΜ[ΕΝΗΣ] (a new die). Contemporary with them is a stamp on an amphora of Type 3 – ΑΜΦΙΣΤΡΑ | ΕΠΙ ΙΦΙΚΡΑ (line 2 is retrograde). There is a Herakleian stamp of the magistrate Kronios (middle of the 320s BC) and another ΗΡΑΚΛΕΙΔΑ | ΕΠΙ ΣΚΥΘΑ dating to the first half of 350s.[48] It is difficult to decipher correctly the rest of the Herakleian stamps, but all of them contain two names. Two fabricants' names – Damophon and Amphikrates – can be read.

Thasian stamps of Group F and the beginning of G are found. Of the names of magistrates, one can read ΠΑΝΦΑΗΣ, ΔΑΜΑΣΤΗΣ, ΑΜΦΑΝΔΡΟΣ, ΑΡΙΣΤΟΚΛ( ), ΤΙΜΑΡΧΙΔΑΣ. A stamp with name of the fabricant Bion and a bee as emblem can be placed in the group dated 342-330 BC.[49] Another specimen with ΜΕΓ[- – -]ΩΝΟΣ | ΚΑΛΛΙΚΡ | ΑΤΗΣ (with the emblem of a gazelle) has been identified by Kac, in a letter of Oct. 12 1994 as a new die, and dated to the third quarter of the 4th century BC. In a closed complex in a cistern, filled with rubbish during a major reconstruction of a sector in the settlement of Belozerskoe, a stamp was found with the name of the magistrate Nauson, c. 335-325 BC in Debidour's chronology,[50] or the last quarter of the 4th century BC according to Avram.[51] Sinopean amphora stamps are represented along with the city's tiles. The tiles were manufactured by Poseidonios when Apollodoros and Histiaios were in office, though in one case the *astynomos* Philonikos is encountered. On the amphoras the stamps of the 1st- and 2nd-group magistrates Menalkes, Histiaios, Philon, Aischines, Theogeitos, Kallistratos, Epielpos, Charixenides, and Mantitheos are represented. The latest official is dated to about 317 BC according to Conovici[52] or to the third quarter of the 4th century BC according to Fedoseev.[53] Single letters and monograms are represented on Corinthian and Knidian amphoras, but they are no help in narrowing the dating. Finds of the Olbian coins are represented by bronzes with the Demeter's head on the obverse and an eagle on a dolphin on the reverse, dated to 380-360 BC, as well as by late cast specimens from 350-330 BC.[54] The date of the great reconstruction is determined by the finds in the early mud-brick debris (Sinopean stamps of Theogeitos and Mantitheos). Apparently it took place at the beginning of the last quarter of the 4th century BC. An absolute date can principally be established by the selection of amphoras and also by the black-glaze pottery as well as the numismatic material. Group 2 Sinopean amphora stamps from the brick debris are dated to the middle – third quarter of the 4th century BC in Fedoseev's chronology[55] or to the first decade of the last quarter of the 4th century BC according to Conovici.[56]

In these three settlements (Usad'ba Litvinenko, Glubokaja Pristan', Belozerskoe), located within a relatively limited area, the material is marked by its uniformity despite the abundance of finds. The truth is that, in analysing the mass of material rather than individual artefacts, chronological differences are only faintly discernible. Nevertheless, in all the settlements of this group we can distinguish an initial period of life, followed in the 2nd and 3rd quarters

of the 4th century by a period characterised by a very high level of imports, and then, after rebuilding, a last period of existence, ending in the first quarter of the 3rd century BC. The dates of the main periods of existence coincide in these neighbouring settlements. Inasmuch as the general set of amphoras in each of these settlements includes the same types, I propose to give a brief description of them in summary form.

In the main period, the amphora assemblage in the Belozerskoe settlement is distinguished especially by the predominance of Chian types; however the same types are encountered in every settlement under consideration although in different proportions. Amphoras of Herakleia Pontike comprise approximately 20% of the fragments in Belozerskoe and are predominant in the other two settlements, with Type-2 amphoras being characteristic of the main period. The amphoras of Thasos, dating to the 4th century BC, are represented in large numbers. While the biconical type is absolutely predominant in early types represented,[57] other types are encountered: fragments of amphoras with straight necks and wide shoulders, and others of pithoid shape. The amphoras of Sinope with rolled rims and cylindrical toes represent shapes belonging to the 4th century BC: Monachov's Types 1 and 2[58] are represented, along with Sinopean tiles and other vessels. The set of amphoras from the main period of life in the settlements includes Chalkidian amphoras, insofar as "Mendean" amphoras were made at more than one centre,[59] and those of Peparethos, along with Solocha-1 type. Fragments of the Type-1 amphoras from Tauric Chersonesos are also found, among them types which some scholars consider to be of Bosporan manufacture.[60] To the second half of the 4th century BC also belong the "wheel-shaped" stamps of the amphoras of Akanthos.[61] The centres of manufacture of amphoras with different types of peg toe ("*kubarevidnaja*" in Zeest's typology) are not fully understood. Usually they have double-barrel handles and large mushroom rims. They probably belong to different centres, with some of them of Koan and Knidian manufacture. Fragments of Koan amphoras of the second half of the 4th century BC-beginning of the 3rd have been found. A few sherds from Usad'ba Litvinenko and Belozerskoe show similarities to Amastrian amphoras, but there are no stamps. Among the Corinthian amphoras, those of Koehler's Type B predominate in Belozerskoe, but there are also fragments of Type A vessels in Belozerskoe and Glubokaja Pristan'.[62] Single fragments of "brown-clay" Kolchian amphoras of the middle-second half of the 4th century[63] are also found (Fig. 2.11), and three fragments of grey-clay Lesbian amphoras of the same date[64] and one of red-clay amphora with part of a stamp were encountered in Belozerskoe. There are finds of small fragments of amphoras which are similar to Rhodian examples of the end of the 4th century BC, but not a single Rhodian stamp has been found.

Thus, from this description of the selection of amphoras, one may note a clear predominance of types from the second and third quarters of the 4th century BC. This corresponds with the dating of the black-glazed pottery

found in all the settlements. There are no 5th century types among the black-glazed pottery, and it is not even possible to identify narrowly dated material from the first quarter of the 4th century BC. The incised and stamped types of decoration characteristic of Attic black-glazed ware of the late 5th-early 4th centuries BC[65] are not represented among the materials obtained (Figs. 5 and 9). This may be explained by particularities in the flow of imports, but it possibly does determine the actual date of the beginning of life in these settlements. The selection of black-glazed pottery in the three settlements includes the common types, though with differences in quantity. A comparison demonstrates the relative differentiation in the selection of black-glazed pottery on the three sites, but no divergence in chronology.

Fragments of red-figured vessels are present in small numbers (Figs. 2, 4 and 9). "Bosporan" pelikai are of the early Kerch style of the first half of the 4th century BC.[66] In the settlement of Glubokaja Pristan′ a fragment of a painted krater was found. Skyphoi are represented by a small number of fragments of types from the first half of the 4th century BC.[67] Contemporary with them in the group of plain black-glazed pottery are bolsals.[68] Light-walled cup-skyphoi with stamped decoration, and tall slender handles of square section rising above the edge of the rim are constantly encountered. They stand on a low ring foot, decorated with bands of glaze on the outer surface of the bottom and stamped ornamentation on the inner. They are dated to the second-third quarters of the 4th century BC.[69] With some fragments it is unclear whether they belong to one- or two-handled vessels. In the main these are represented by the bottoms on a low ring foot and with stamped and incised decoration (linked palmettes within rouletting) on the inner surface. Such vessels achieved wide distribution in the second quarter of the 4th century BC.[70] One-handled cups set on a low ring foot were a popular shape; the body walls are slightly profiled, with an out-turned rim, and the handle is triangular. They are completely covered by the glaze. This is predominantly a shape of the second quarter of the 4th century BC.[71] Other vessels are analogous to finds in Attica dated to the second half of the 4th century BC.[72] Cup-kantharoi of the second half of the 4th century BC are found, with moulded rims of almost triangular section, often massive and overhanging.[73] Kantharoi are represented by common types with a smooth body and plain rim. They may be assigned to the second-third quarters of the 4th century BC.[74] Fish-plates and ordinary dishes show a wide range of dates within the 4th century, as do bowls with incurved rims. Bowls with out-turned rims have completely straight walls and are covered with a thick, shiny glaze. They belong to types of the third quarter of the 4th century BC, though the latest date to the last quarter.[75] The large numbers of lekythoi represent shapes of the 4th century BC – "reticulated" ("netted"), red-figured examples with palmettes, and large ones with spherical bodies.[76] Askoi-gutti with small looped and fluted handles are found in Belozerskoe, dated to the second-third quarters of the 4th century BC.[77] The lamps belong to a type widespread in the first half-third quarter of the 4th century BC, which char-

acteristically have a high, smoothly rounded body completely covered, inside and out, with glaze, and a bottom in the form of a solid base.[78] Round lamps covered with glaze are also found with massive, elongated nozzles of square section, more characteristic of the second half of the 4th century BC.[79]

The earliest finds and structures in these settlements are from the first quarter of the 4th century BC and do not establish whether or not these settlements were founded simultaneously; finds from the first quarter of the 4th century BC are encountered more or less widely in every excavation area. Because of the chronological coincidence now revealed, it is possible to propose 390-380s as the date for the foundation of these settlements. In these settlements in lands to the east of the boundary of the Olbian *chora* of the Archaic period, we can trace two building periods at least within the limits of the 4th century and first quarter of the 3rd century BC, followed by a cessation of life there. Thus, the cessation of life at the mouth of the Dnieper River must be dated to the end of the first quarter of the 3rd century BC. Above all, the date is determined on the basis of the current chronology of Chersonesean stamps worked out by Kac. Further refinement and any fundamental changes in the chronology of the *astynomoi* of the first two groups may entail a change in the upper date for the settlements' existence, but it fits the numismatic and amphoric data and the latest black-glazed vessels. It was earlier thought that in the eastern part of the rural hinterland the settlements survived down to the 2nd century BC,[80] but the chronology presented here overturns that view. As far as our settlements are concerned, they contain no traces of hostile attack, but some of them were probably hurriedly abandoned. This situation contributes to the general picture of crisis in the northern Black Sea region in the first half of the 3rd century BC.

The fortified settlements under review which arose in this part of the region in the 1st century BC[81] lie outside the scope of this paper.

The difficulty of chronological reconstruction and division into periods for the inner Scythian settlements derives from the fact that these sites often have only a slender cultural layer, with extremely fragmented ceramics and a meagre quantity of dating material. The chronology of the settlements in Scythia is based mainly on the largest and most thoroughly investigated Kamenskoe fortified settlement. One can now combine the results of the first investigations on the site[82] with information from the excavations of 1987-1998.[83] The earliest finds from Kamenskoe are a Thasian stamp ΔΑΜΑ | ΘΑΣΙΟ | ΣΑΤΥ, published by Plešivenko,[84] one of the first stamps in Group B, of the early 380s,[85] and an Istrian coin[86] from the end of the 5th beginning of the 4th century BC.[87] N.A. Gavriljuk, who distinguished two excavation areas as being the earliest, dated one of them, on the basis of finds, to the second half of 5th-first half of 4th centuries BC and the other to the end of 5th-first half of the 4th century BC.[88] She has postulated a fifth century date on the basis of Thasian stamps and fragments of two light clay vessels with stripes painted in a reddish-brown colour ("Ionian"). However, Thasian stamps cannot serve as

a foundation for such an early date since the stamping of Thasian amphoras is thought to begin only in the 4th century BC, c. 395-390.[89] Wheel-made pots decorated with red and brown stripes were widespread on the north coast of the Black Sea in the Classical and Hellenistic periods, a large number of them of local manufacture, including Olbian; it has been noted that Olbian painted decoration was always reddish in colour[90] (Fig. 2.18-20). Thus such an early date for the foundation of Kamenskoe is not convincing. As regards the upper date one can point to the Group-3 Sinopean stamps and a stamp from early Group 4 along with Chersonesean stamps. The Chersonesean stamps (ΑΠΟΛΛΟΝΙΔΑΣ, ΕΥΚΛΕΙΔΑΣ, ΝΑΝΩΝ, ΗΡΟΔΟΤΟΣ, ΗΡΟΞΕΝΟΣ, ΑΘΑΝΟΔΩΡΟΣ ΝΙΚΕΑ, ΗΡΟΚΑΣ) belong to Group 1 and sub-group A of Group 2, i.e. they date from 325 to 272 BC.[91] Only two *astynomoi* belong to the 2nd group, and then only to the first part of the list, which is dated to 280-270 BC. The latest coins are Olbian "Borysthenoi" of 300-280 BC, which show up in the excavations and in hoards.[92] The Thasian and Herakleian stamps fall within the limits of the 4th century BC, to the last quarter of which belongs a stamp ΕΤΥ|ΜΟΥ. Among the Sinopean stamps, Group 1 is represented by Endemos, Apollodoros, Philon, and Aischines 2. From the 2nd group we have Mnesios 1, Epielpos 1, Apollodoros 2, Poseidonios 3, Poseidonios, son of Hephaistodoros, Theopeithes; from the 3rd group Hikesios, Phorbas 2, Borys, Mnesikles, and from the beginning of the 4th group (279-258 according to Conovici 1998), Hekataios 1. Unstamped ceramic containers belong to 4th century types, as do the few fragments of black-glazed pottery. This is true both for Grakov's finds and those from the new excavations[93] (Fig. 10). Fourth century finds include coins from Histiaia in Euboia, Macedonia, Chersonesos, Pantikapaion and Olbia. All this demonstrates, contrary to Gavriljuk's opinion, that the settlement of Kamenskoe was founded in the early 4th century and was occupied down to the 270s BC.

In the settlement of Lysaja Gora the earliest material comes from surface surveys and belongs to the first quarter of the 4th century. It consists of an early Herakleian stamp of the fabricant Theoxenos and a Thasian stamp ΦΑΣΙΩΝ|ΑΠΙΣΤ.[94] Among wheel-made vessels fragments of Thasian and Herakleian amphoras predominate (Fig. 11.1-13). The latest find in the excavation is a Chersonesean stamp of Xenon, dated to 300-285 BC,[95] and encountered in the upper layer.[96] Coin finds are concentrated in the largest fortified settlement of Kamenskoe, which is considered to be the centre of trade.

The author conducted excavations in Pervomaevka 2 in 1985-1987. An area of almost 1000 m^2 was uncovered, but few chronological indicators were found. Among the finds there is only one, Sinopean, stamp, belonging to the 2nd group, with only the name of the fabricant Philokrates clearly legible. According to Fedoseev it dates to the third quarter of the 4th century BC. Only four amphora toes were encountered in the excavations (two Herakleian and two Sinopean) and another Sinopean was found in the survey. Among the amphora fragments, Herakleian (types 1, 2, 3) and Thasian containers

dominate. Thasian amphoras are predominantly of the biconical type, but one is conical. Sinopean jars belong to variant 1D of the third quarter of the 4th century BC and to variant 2A, dating from the turn of the 1st and the 2nd centuries.[97] No Chian cap-toes were found, but fragments from the upper parts of straight-necked Chian amphoras are present. One small fragment of a black-glazed cup was also encountered. Thus, all the imported vessels may be dated to the 4th century BC (Fig. 11.14-24).

In the settlement of Černeča an area of 510 m^2 was uncovered by the author. No stamps or black-glazed ceramic are present. Three amphora toes belong to Thasian, Chalkidian and Herakleian jars respectively. There are other parts of Chian and Sinopean amphoras as well as Koan examples with the double-barrel handles. Such a combination of amphoras would seem to be characteristic mostly of the second and third quarters of the 4th century BC (Fig. 11.25-32).

The stratigraphy and the material from the Scythian settlements offer fewer possibilities for working out the chronology. The foundation of Kamenskoe and Lysaja Gora may be dated by the finds of amphora stamps to the 90s or 80s of the 4th century BC. According to the latest material – again amphora stamps and numismatic data – the cessation of life in these two Scythian settlements occurred in the 80s (Lysaja Gora) and the late 70s (Kamenskoe) of the 3rd century BC. Two other settlements existed in the 4th century BC.

In reviewing these results one may note that the material in the "Greek" and Scythian settlements is synchronous, but there are no early Thasian stamps in settlements of the southern territory in the initial period of their existence. There is also an essential difference in the contemporary numismatic finds in the two groups of settlements. As for the dating material for the last period of existence of the settlements in the Lower Dnieper region, one notes the coincidences in the set of stamps and the "Borysthenoi" in the outer and inner groups, but there is more of the late material, in particular Chersonesean and Sinopean stamps, at Kamenskoe. In the outer settlements only the first magistrate in Group 2 of Chersonesean stamps is represented while in Kamenskoe we find the second and the fifth. Sinopean stamps of the 3rd group are prominent only in Kamenskoe, but the latest Sinopean stamps are of the early 4th group in both Kamenskoe and Glubokaja Pristan'. Chronologically, no real distinction emerges between the settlements located in the two zones of the territory under consideration. On the evidence just set out we may conclude that the inner and outer settlements existed synchronously and ceased to exist more or less simultaneously.

Later, new sites appeared in Scythian territory. Some of these new fortified settlements are apparently located on the sites of earlier seasonal camps in the region of the river crossings, insofar as there are isolated finds from the 4th century. In the 1950s-1960s some materials were dated to the 3rd-2nd centuries, and this was the basis for the belief that there was a continuous Scythian presence in the Lower Dnieper region and an uninterrupted tran-

sition to the Late Scythian culture. The revised chronology invalidates this hypothesis, and the archaeological data indicate a temporary abandonment of this region.

Among the Late Scythian fortified settlements Znamenskoe is the only one with an early layer of the 4th century BC.[98] The corrected dates show a group of finds at the settlement of Znamenskoe dating to the 4th and first quarter of the 3rd centuries BC, with the main mass not earlier than the middle of the 2nd century BC. Amphoras widely dated to the 4th-3rd centuries BC by N.N. Pogrebova[99] are of types which belong to the 4th century BC, as do the Thasian and Herakleian stamps. The latest of these is a Herakleian stamp with the name ΕΤΥ|ΜΟC, discussed above. Chersonesean stamps with names Apollonidas (Group 1A) and Kotytion (Group 2A) date from the end of the 4th to the 280s BC in Kac's classification.[100] The Rhodian amphoras were dated by N.N. Pogrebova to the 3rd century BC and the Koan to the end of the 3rd and the 2nd century BC. Seven fragments of Rhodian amphoras were found, including three stamps. Two stamps contain the month ΠΑΝΑΜΟΥ, with the magistrate ΑΡΧΕΜΒΡΟΤΟΣ in one case; the third is round, with a flower as the emblem.[101] Archembrotos 1 belongs to the 5th chronological group dated c. 145-108 BC, and his year is c. 134/133.[102] The Koan stamps can hardly be considered a reliable tool for narrow determinations of chronology, but we may note that a Koan stamp, ΑΔΑΙΟΥ, of the early 1st century BC[103] was found in Znamenskoe and another, which reads ΒΑΣΙΛΕΙΔΟ, recorded also from the 2nd century layers of the Scythian Neapolis.[104] These were initially dated to the 3rd century BC by N.N. Pogrebova. There are also two Sinopean stamps of a date not earlier than the second quarter of the 2nd century BC (according to Fedoseev), ΓΑΥΚΟΥ and ΝΟΥΙΟΥ; the latter was found with a Rhodian stamp of Group 5 in layer D at Neapolis, which is dated not earlier than c. 137-130 BC.[105] Two fragments of lagynoi have been found, one perhaps of Rhodian manufacture, and there are finds of "Megarian" bowls. According to Rotroff's data, lagynoi are characteristic for the period from the 3rd to the 1st centuries BC, being especially popular from 150 to 50 BC.[106] J. Bouzek, who worked with the collection of "Megarian" bowls from both the settlement of Znamenskoe and from the graves, has distinguished five different groups:

> "1. The "Ephesus" black-glazed Ionian bowls are most common. 2. The thinner Ionian two-coloured low bowls are second in number. 3. Very low one-coloured bowls with broad leaves and rosettes, probably of Samian fabrication (2 pieces). 4. One fragment of a Late Pergamene bowl with an S-profiled rim. 5. Several crude unglazed fragments, which might be local Pontic products."[107]

The chronology of the mould-made bowls, especially from Ionia, is not firm, but the period of maximum distribution is the second half of the 2nd century BC.[108] "Megarian" bowls in the late Scythian fortified settlement of Kara-Tobe

in the Crimea (where the cultural layer is dated to the second quarter of the 2nd-first half of the 1st century BC) are mainly of Ionian manufacture. Some types have been identified that belong to 175-150 and 150-100 BC.[109] From the settlement of Znamenskoe comes a find of a single fibula of middle La-Tène form, datable to the second half of the 2nd century BC, according to K.V. Kasparova.[110] An Olbian coin, once dated to the end of the 3rd century,[111] but more recently to 160-150 BC[112] is known from survey. The main mass of material is the same in all the Late Scythian settlements. It is described summarily in the following, and dates from the 1st century BC. The earliest artefacts may place the foundation of Znamenskoe in the second half of the 2nd century BC with the 130s BC as *terminus ante quem*.

In the fortified settlement of Gavrilovskoe[113] isolated finds from the 4th century BC are present, but finds on the original floor of the earliest dwelling were dated by Pogrebova to the end of the 2nd-1st century BC. These include a skyphos from the first half of the 1st century BC and a cup from the 1st century BC.[114] Also found at Gavrilovskoe was the bottom of an Egyptian alabastron made of coloured glass of the Hellenistic period.[115] Analogous articles in Samothrace are dated to the 1st century BC.[116] Among the finds a sherd of a red-glazed "Megarian" bowl[117] and a fragment of a lagynos are mentioned.

In the settlement of Zolotaja Balka two building periods were identified, the earlier lasting from the end of the 3rd century through the 2nd-1st centuries BC.[118] M.I. Vjaz'mitina concluded that the settlement was preceded by a Scythian camp of the 4th-3rd centuries BC. Now, however, all amphora fragments are dated to the 4th century. Vjaz'mitina's date for the foundation of the settlement rests first of all on Sinopean import of the 3rd-2nd centuries BC.[119] The Sinopean amphora toes[120] belong to the 4th century types. A Sinopean stamp was found and dated to the 3rd-2nd centuries BC.[121] N.F. Fedoseev now reads ΖΩΠΥΡΙΩΝΟΣ| ΑΣΤΥΝΟΜΟΥΝ|ΤΟΣ ΚΟΥΡΥΛΟΥ (with two emblems) and dates the stamp to the 320s BC. This stamp belongs to chronological group 3, and the latest date proposed for it is the very end of the 4th century BC.[122] Vjaz'mitina further considered certain amphora fragments to be Koan of the 3rd-2nd and the 2nd-1st centuries BC, which in fact come from later products of other centres.[123] The materials obtained do not support a date for the foundation of the settlement in the 3rd century or at the turn of the 3rd and the 2nd centuries BC as proposed by M.I. Vjaz'mitina and later by M.B. Ščukin.[124] The earliest layers and objects contain fragments of Pergamene kantharoi with white painting, glazed cups and bowls. Vjaz'mitina made no mention of finds of Rhodian amphoras or Megarian bowls. Thus, in this settlement she noted finds of imported pottery from Asia Minor with a broad range of dates in the 2nd-1st centuries BC, but no finds are identified with a narrow 2nd century date.[125]

At Annovskoe an area of 900 m^2 was uncovered in 1984, 1986, and 1987.[126] The date proposed by one of the authors for the earliest buildings, the end

of the 3rd and the 2nd century BC, may have to be revised. The Chersonesean stamp of Bathyllos, of 325-315 BC according to Kac[127] was incorrectly read and dated to the end of the 3rd-2nd centuries BC.[128] A "Hellenistic cup" was found on the lowest floor of a stratigraphically early building. This cup (no. 566 in the collection of 1987, Fig. 12.2) of cylindrical shape with typical ring foot is analogous to finds in Zolotaja Balka with a date in the 2nd-1st centuries BC.[129] Gavriljuk also considers a fragment of a glazed vessel with painted decoration and some bronze earrings to be a basis for an early date in the 3rd-2nd centuries BC.[130] This fragment of the kantharos – no. 332 in the collection of 1987 (Fig. 12.1) – has analogies in Zolotaja Balka, in a group of Pergamene ceramic of the 2nd-1st centuries BC.[131] With regard to the earrings as a chronological indicator for the second half of the 3rd century BC, one may have doubts about their narrow dating, since even the grave in the necropolis of Zolotoe in the Crimea, which contains the earrings proposed by Gavriljuk as an analogy and basis for her date, is dated to the 1st century AD by V.N. Korpusova.[132] This settlement is similar to Zolotaja Balka in its material culture and is situated close to it.

In the settlement of Ljubimovskoe, following work by various scholars in 1926, 1927, 1929, 1951, 1952, 1972, and 1978, excavations were renewed by M.I. Abikulova in 1988-1990. She identifies two building periods, with an early one lasting from the 2nd-1st centuries BC until the end of the 1st century AD.[133] The early structures include the usual set of amphoras from the 1st century BC, and fragments of "Megarian" bowls (Ionian) are mentioned along with them. Sherds of glazed pottery from Asia Minor were also found and a chance find of a cup is known (Fig. 12.4-5).

Thus, we see a divergence between the dating of the amphoras and the isolated ceramic material. In the northern Black Sea littoral Rhodian amphoras are found en masse in the 2nd century BC sites, but they are absent from our settlements with the exception of Znamenskoe. These isolated artefacts may determine the beginning of renewed occupation in the second half of the 2nd century BC of the territory abandoned earlier. The presence of lagynoi and "Megarian" bowls is the main reason for updating to the 2nd century BC, but lagynoi are current in the late 2nd-early 1st century BC along with "Ionian" relief-ware.[134] If we set aside the settlement of Znamenskoe, the earliest group of amphoras in all the Late Scythian settlements dates from the 1st century BC-1st century AD, according to Vnukov's chronology (Fig. 13). The most common amphora type in the early strata is wide-necked, with double-barrel handles, a cigar-shaped body and cone-shaped or acorn-shaped toe (Type C 1). They are probably late Koan or come from the south coast of the Black Sea – from Sinope and Herakleia.[135] Fragments of amphoras are also found with oval-sectioned handles (Type C 2). Amphoras with profiled handles, an elongated body and conical toe are represented (Type C III A). Their date, based on the materials from the north-western Crimea, may be narrowed down to the last quarter of the 1st century BC-first half of the 1st century AD.[136]

As for the numismatic evidence, two Olbian coins of the second half of the 2nd century BC were found by chance on the Lower Dnieper settlements. One is mentioned above (in Znamenskoe), the other – a coin of Skilouros – is known from surveys in the settlement of Kopulovka 4,[137] and is dated 130-120 BC according to Anochin.[138]

It is possible that the foundation of Znamenskoe marks the first penetration of a new population into the Lower Dnieper region in the second half of the 2nd century BC after a gap in occupation, but it is more likely that the foundation of the other fortified settlements occurred at the end of the 2nd-beginning of the first century BC.

In summing up the results of the new investigations into the chronology of the settlements of the Lower Dnieper, one may distinguish several periods in the life of the population of the region, periods which are linked to changes in the historical situation in Olbia, in Scythia and in the north Black Sea littoral as a whole. Despite cultural differences within the population, the division into periods of the settlements shows the same periods of existence with small chronological distinctions. The first period of settling begins in the early 4th century BC and continues down to the first quarter of the 3rd century. Furthermore, from the second third of the 3rd century to the middle of the 2nd BC, there is no archaeological evidence of the presence here of a Scythian or any other population. This is equally true for settlements and not only burials, as has been asserted.[139]

The third period embraces the chronological interval from the second half of the 2nd century BC to the first centuries AD, but the return to a settled way of life, judging by the mass of material in the lower strata of the settlements, occurred more or less simultaneously in the 1st century BC. Nevertheless, the presence of isolated finds from the second half of the 2nd century BC requires explanation. One may suggest that separate population groups gradually penetrated into the territory where the nomadic Scythians had formerly lived, and the continuous deliveries of goods in amphoras began when the *chora* of Olbia was reborn. The earliest material of the 2nd century BC is present only at Znamenskoe, which was perhaps founded earlier than the other settlements. There is no stratigraphic confirmation of this; there are no complexes which do not contain amphoras of the 1st century BC. Likewise, the material from the burials provides no early dates.

As a result of the more precise chronology, shifts in the material culture and the ethnic composition of the population in the territory of Scythia can be traced. Comparison of the chronology derived from archaeological data with the epigraphic or literary evidence is difficult, since the sources at our disposal do not relate directly to this territory at this time. Because of the chronological discrepancies now revealed, it is no longer possible to link the decree in honour of Protogenes with the population of the Lower Dnieper settlements.[140] The revised chronology of their existence has thus allowed us to make corrections to the earlier reconstruction of the historical situation in the region.

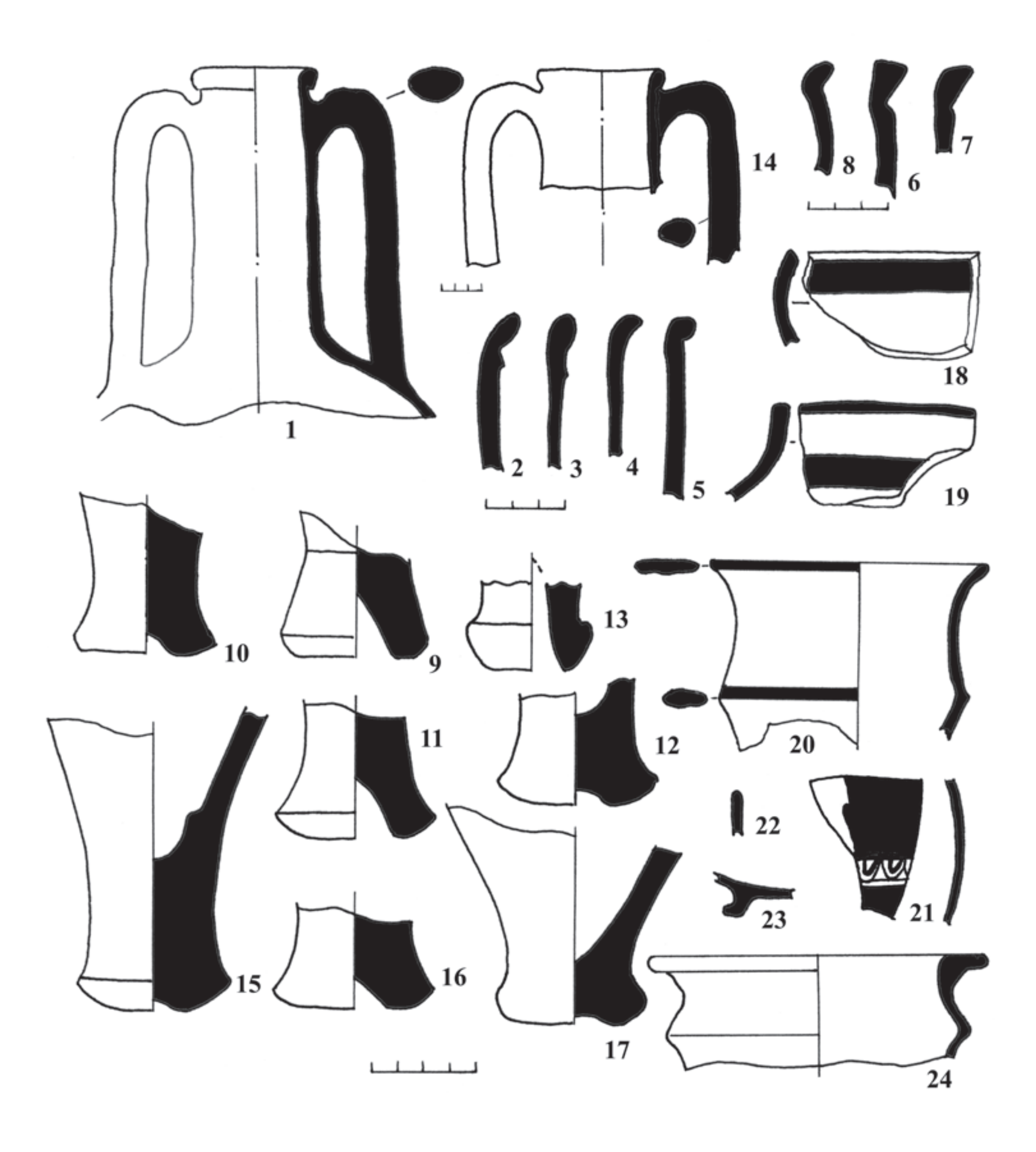


Fig. 2. Pottery [1-17) amphoras, 18-20) painted tableware; 21-24) black-glazed ware] from filling of the ancient ravine in the Usad'ba Litvinenko settlement (collection of the Cherson regional museum).

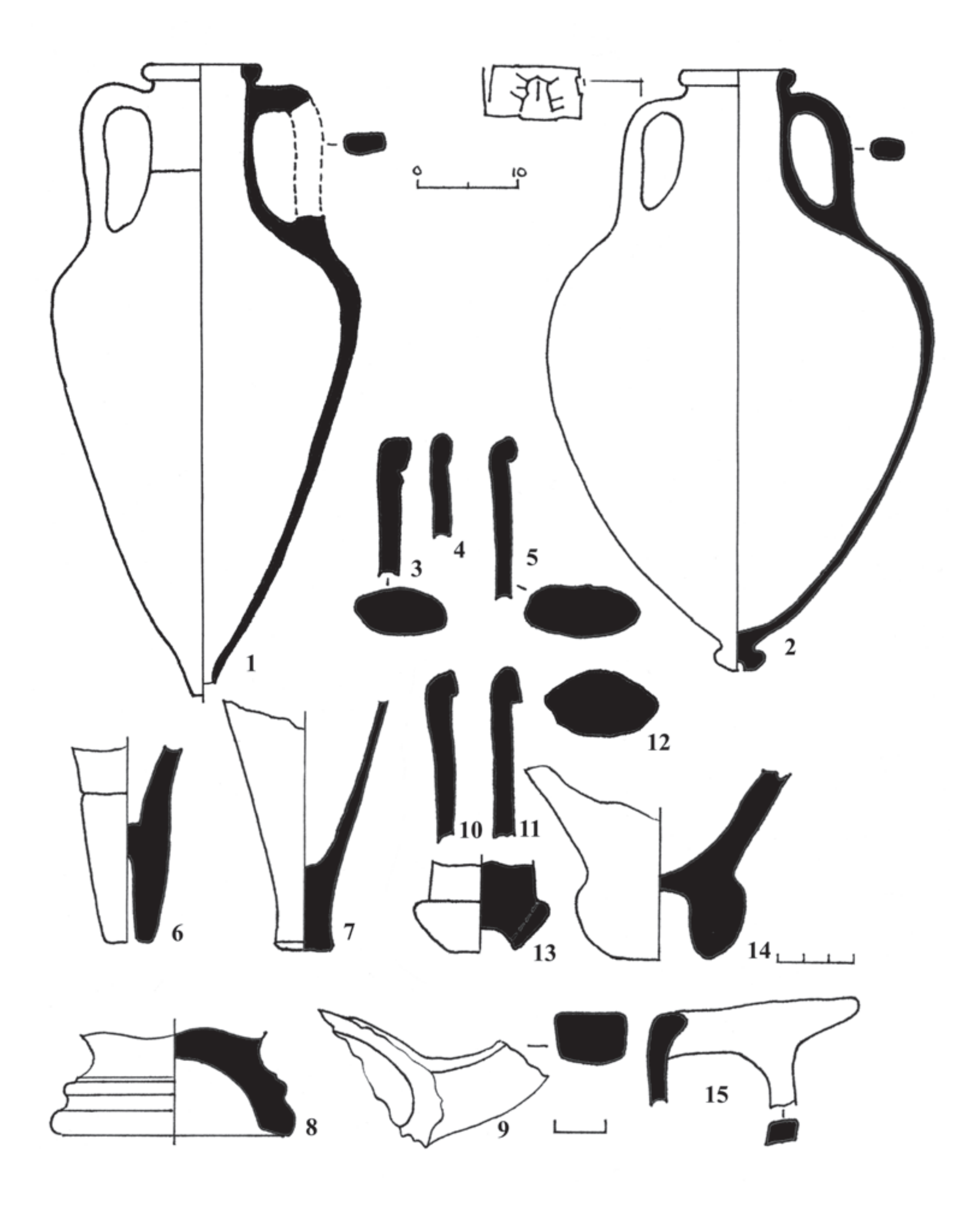


Fig. 3. Pottery [1-7, 10-14) amphoras; 8-9, 15) black-glazed ware] from the dwelling (1-2), pit no. 1 (3-9), pit no. 3 (10-15) in the Usad'ba Litvinenko settlement (collection of the Cherson regional museum).

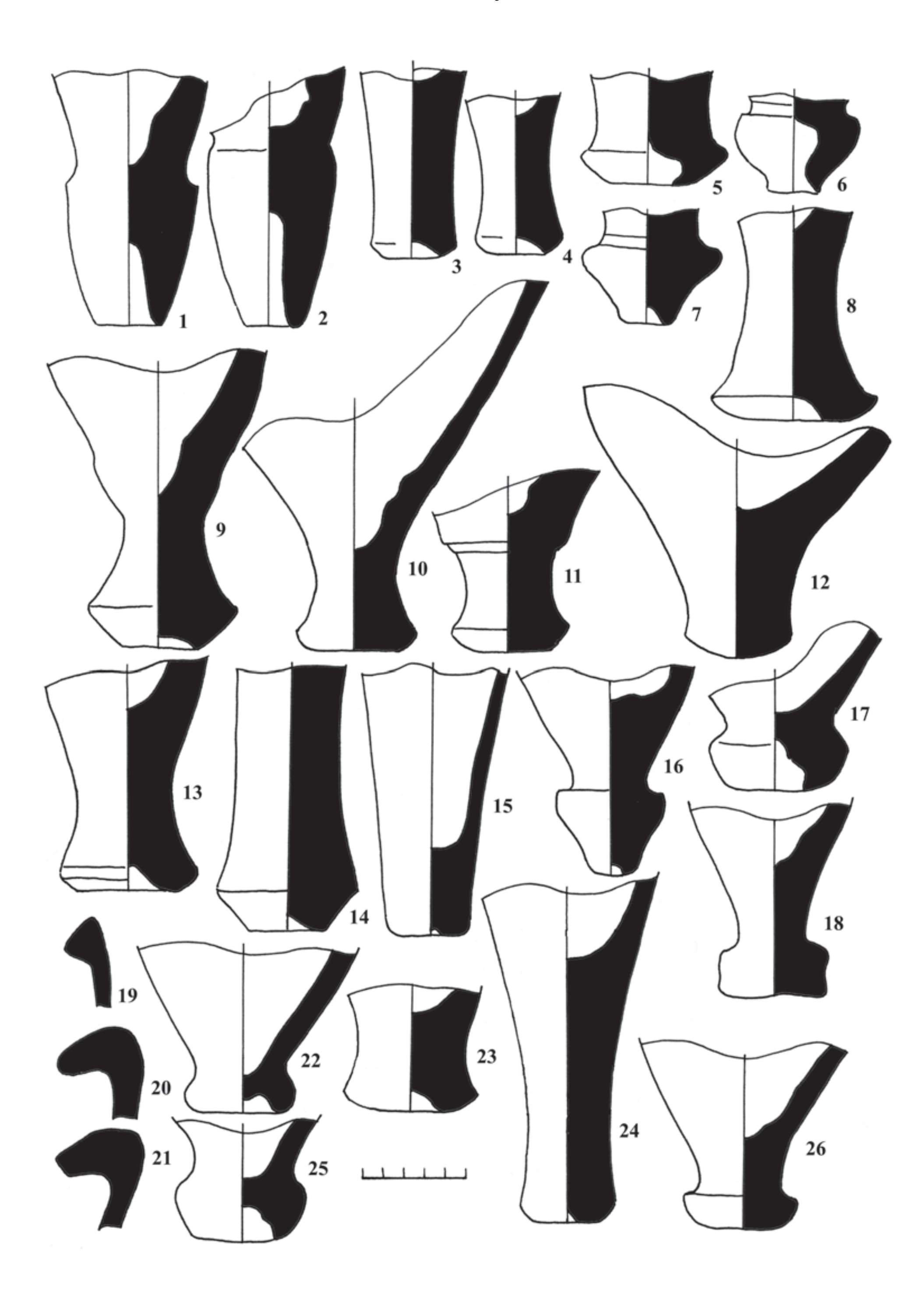


Fig. 4. Types of amphoras from excavations of 1950 and 1991 in the Glubokaja Pristan' settlement (collection of the Cherson regional museum).

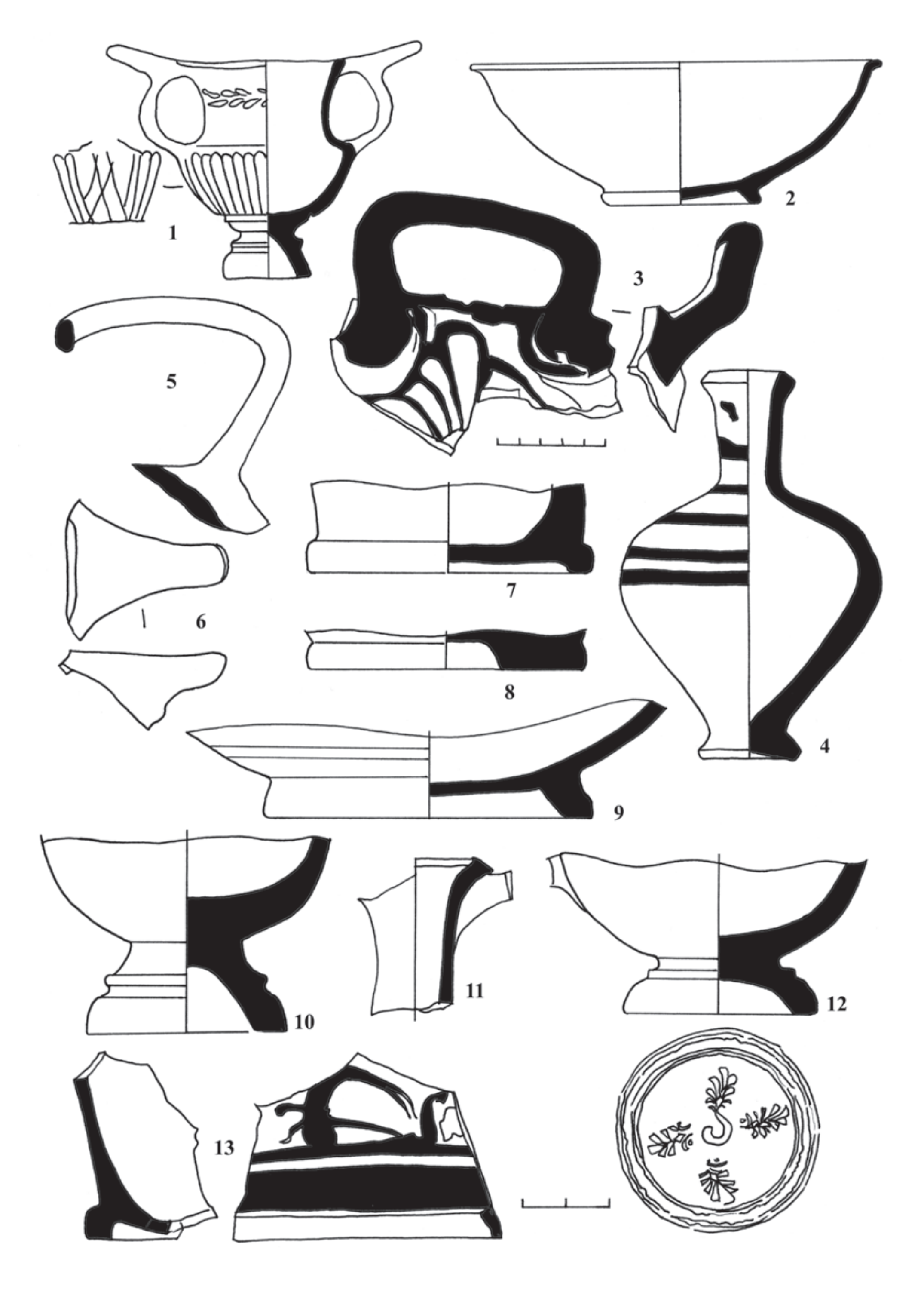


Fig. 5. Black-glazed pottery and unguentarium from excavations of 1950 and 1991 (5-10) in the Glubokaja Pristan′ settlement (collection of the Cherson regional museum).

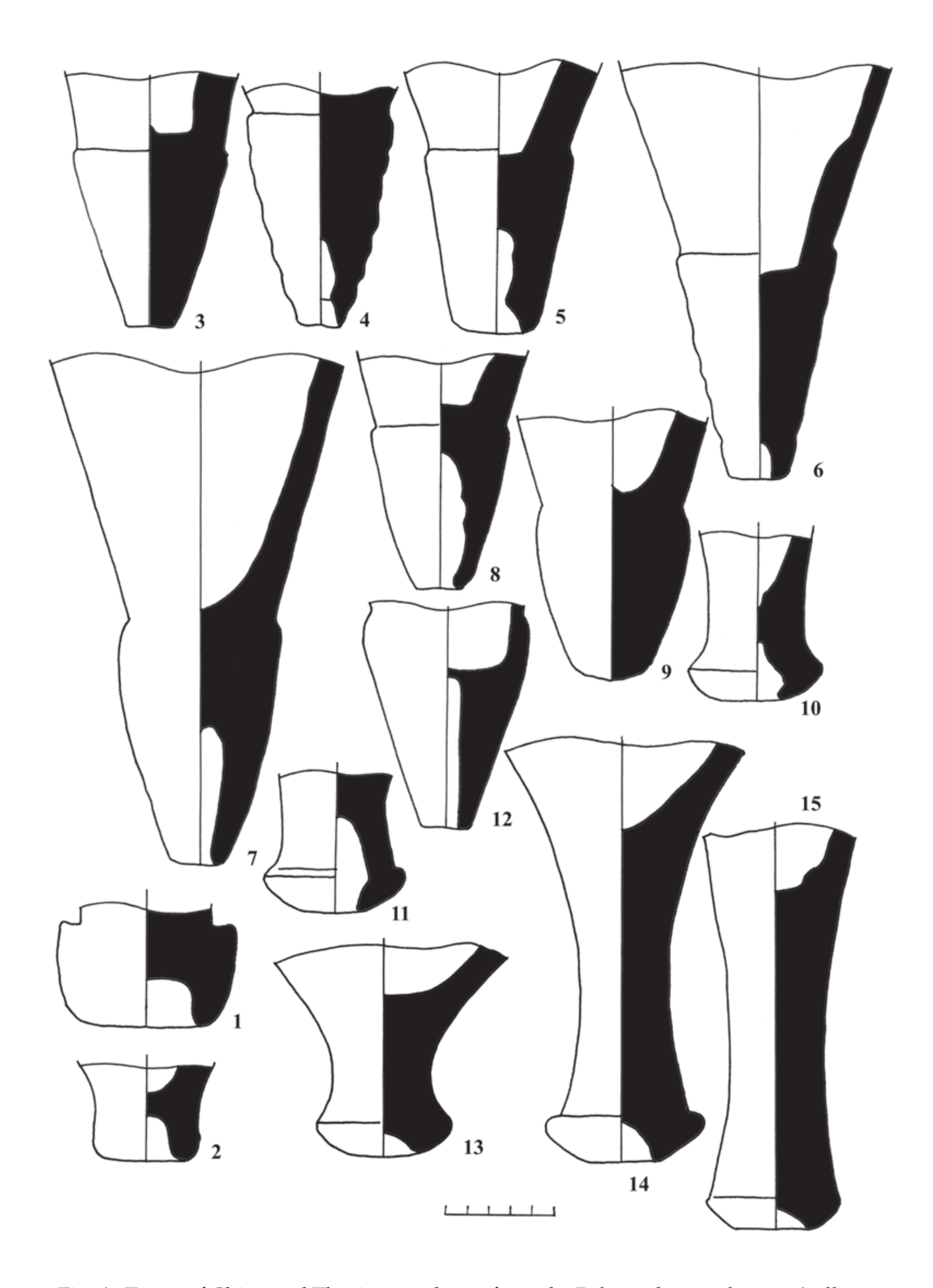


Fig. 6. Types of Chian and Thasian amphoras from the Belozerskoe settlement (collections of the Cherson regional museum and the Cherson State University).

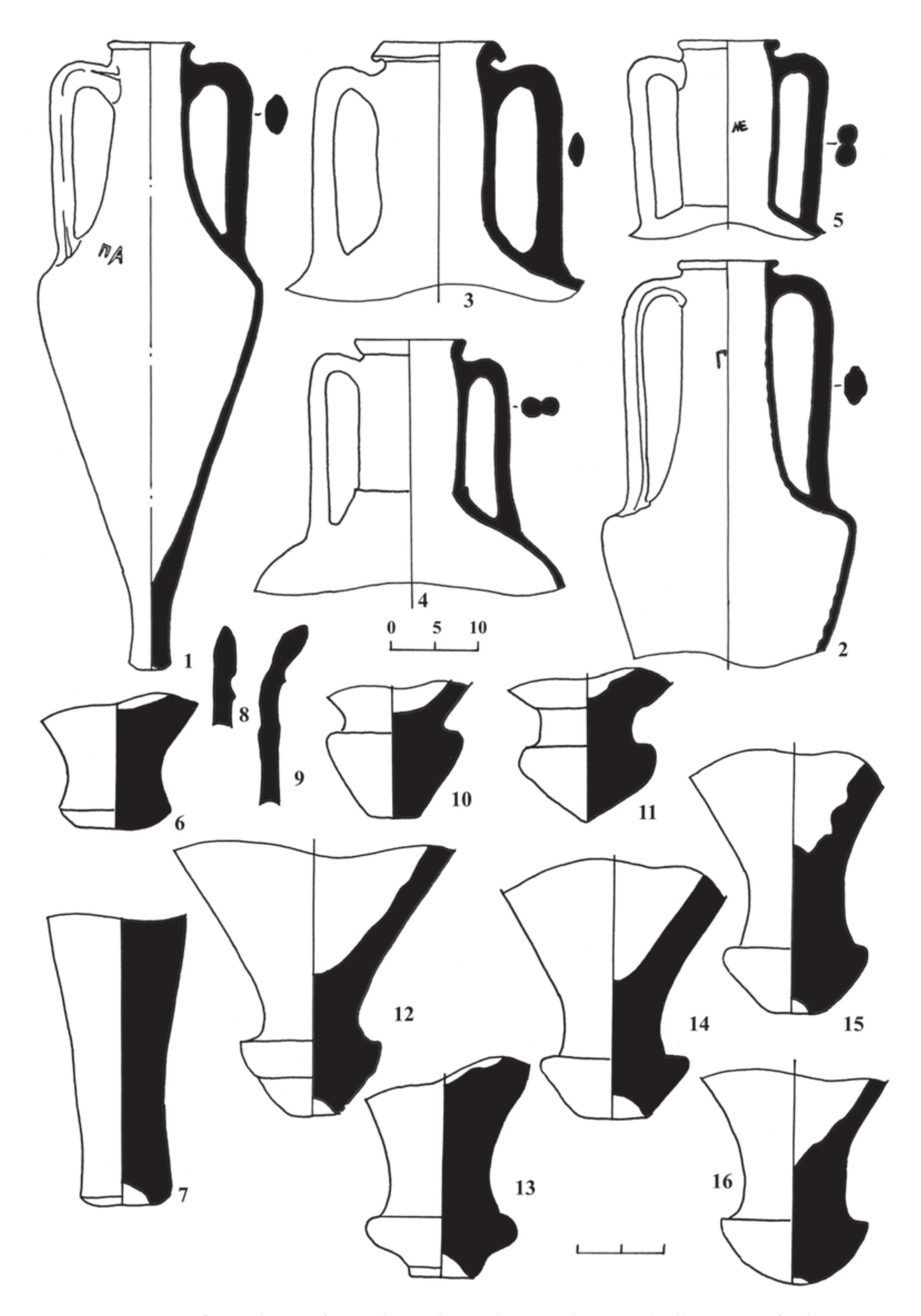


Fig. 7. Types of amphoras from the Belozerskoe settlement (collections of Cherson regional museum).

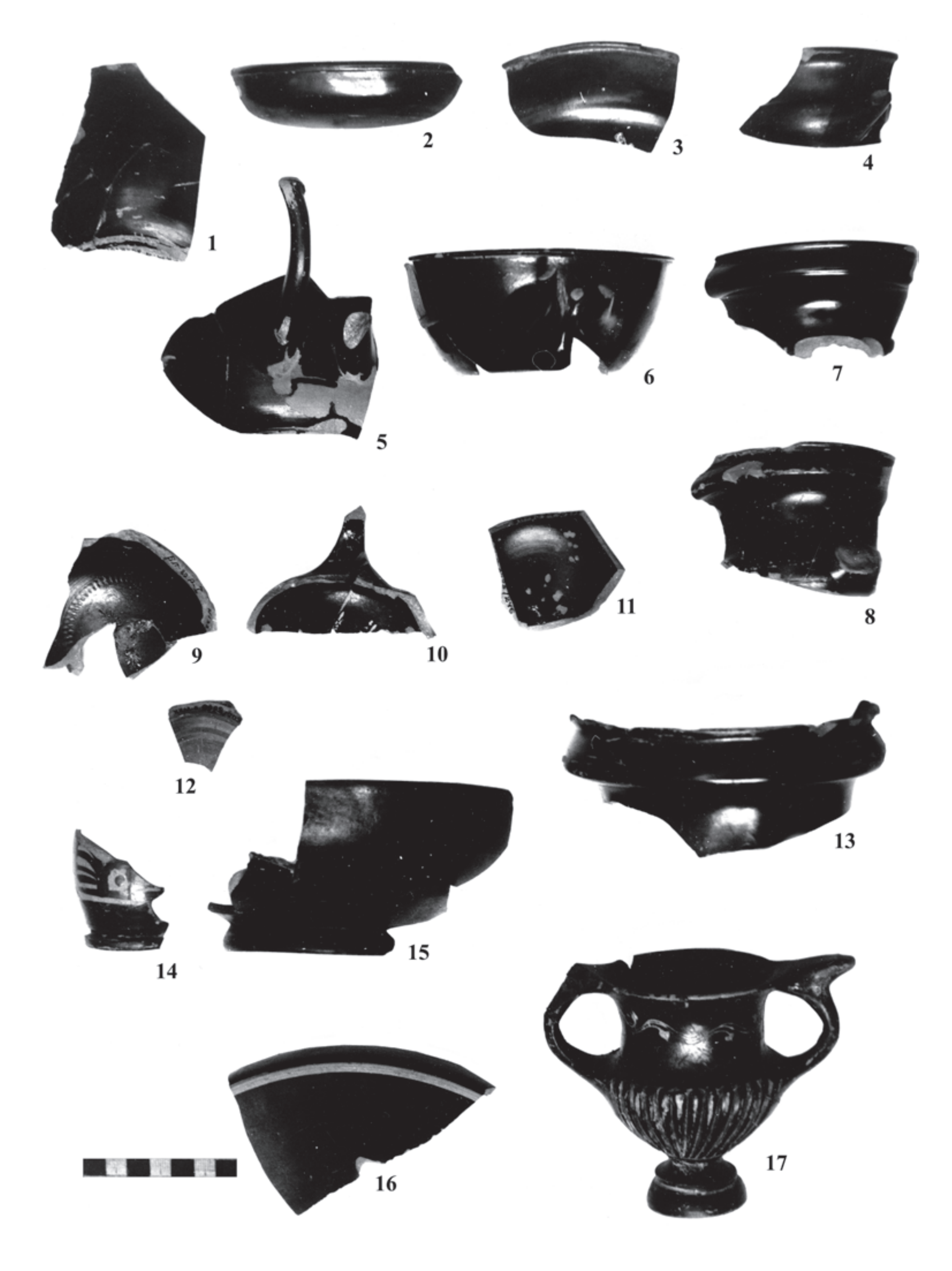


Fig. 8. Black-glazed pottery from the Belozerskoe settlement, excavations 1989 (collection of the Cherson regional museum).

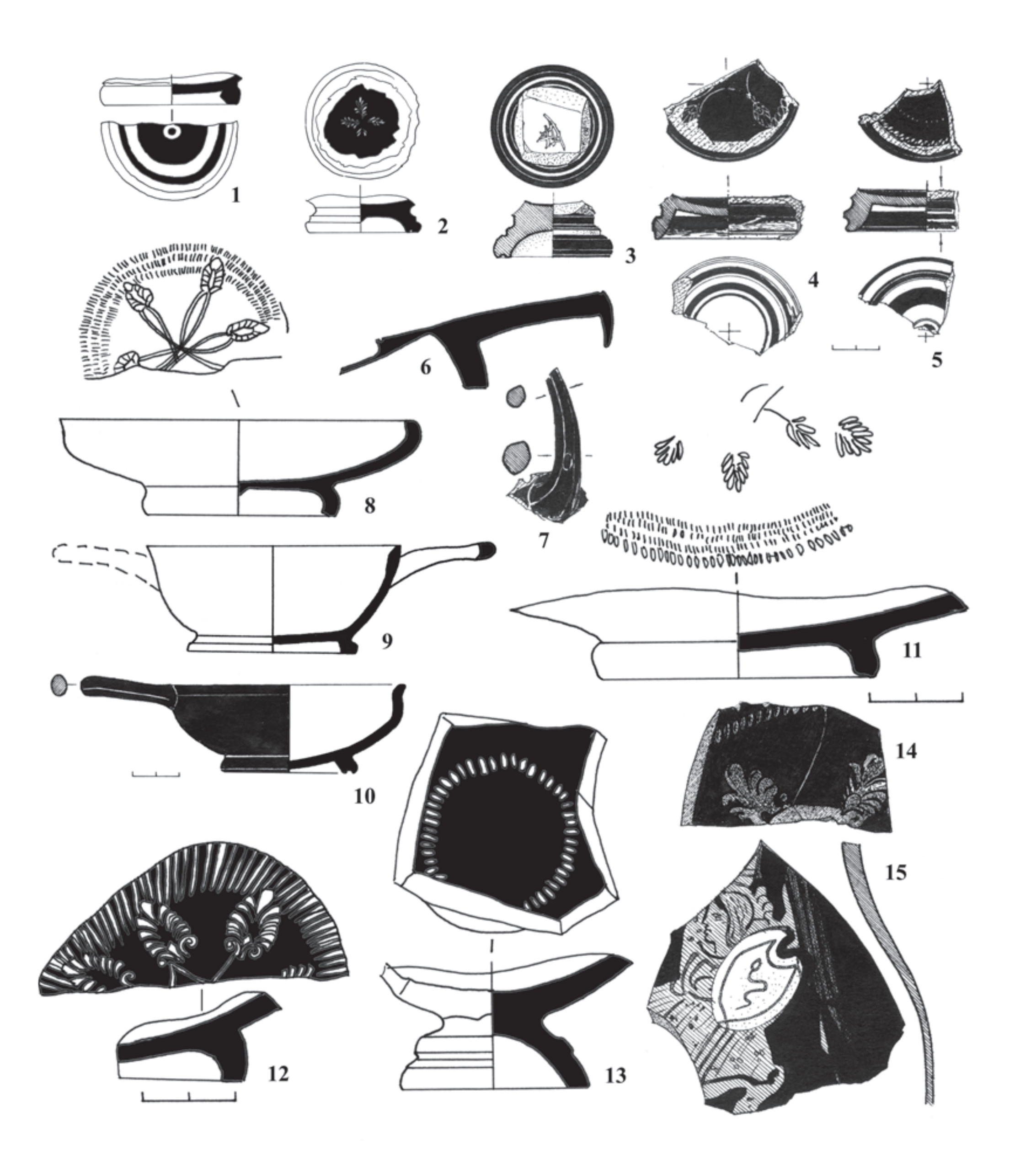


Fig. 9. Black-glazed pottery from the Belozerskoe settlement (collections of the Cherson regional museum and the Cherson State University).

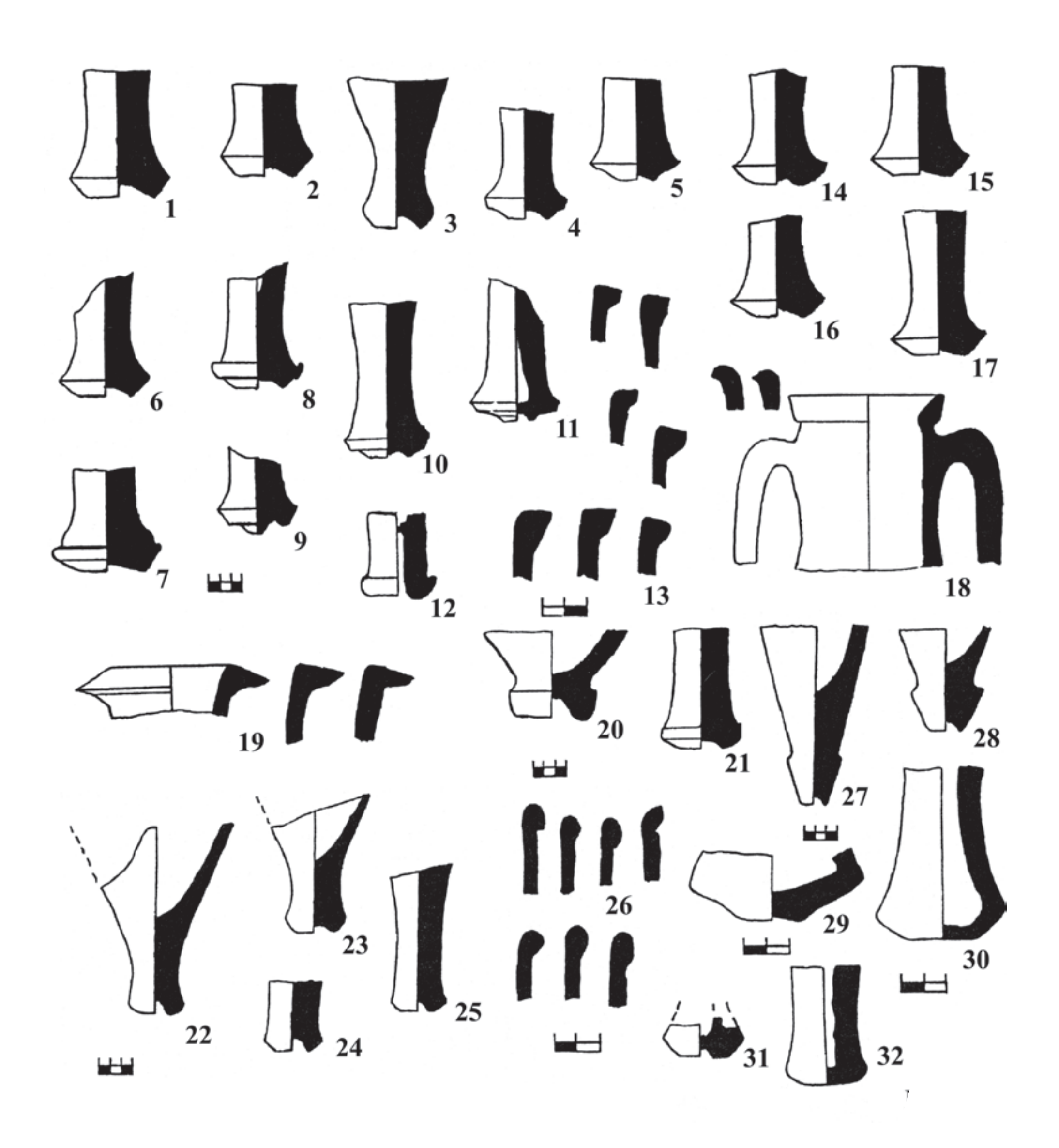


Fig. 10. Amphoras from the Kamenskoe settlement (after Karjaka 1997, 112, 115, figs. 1 and 2).

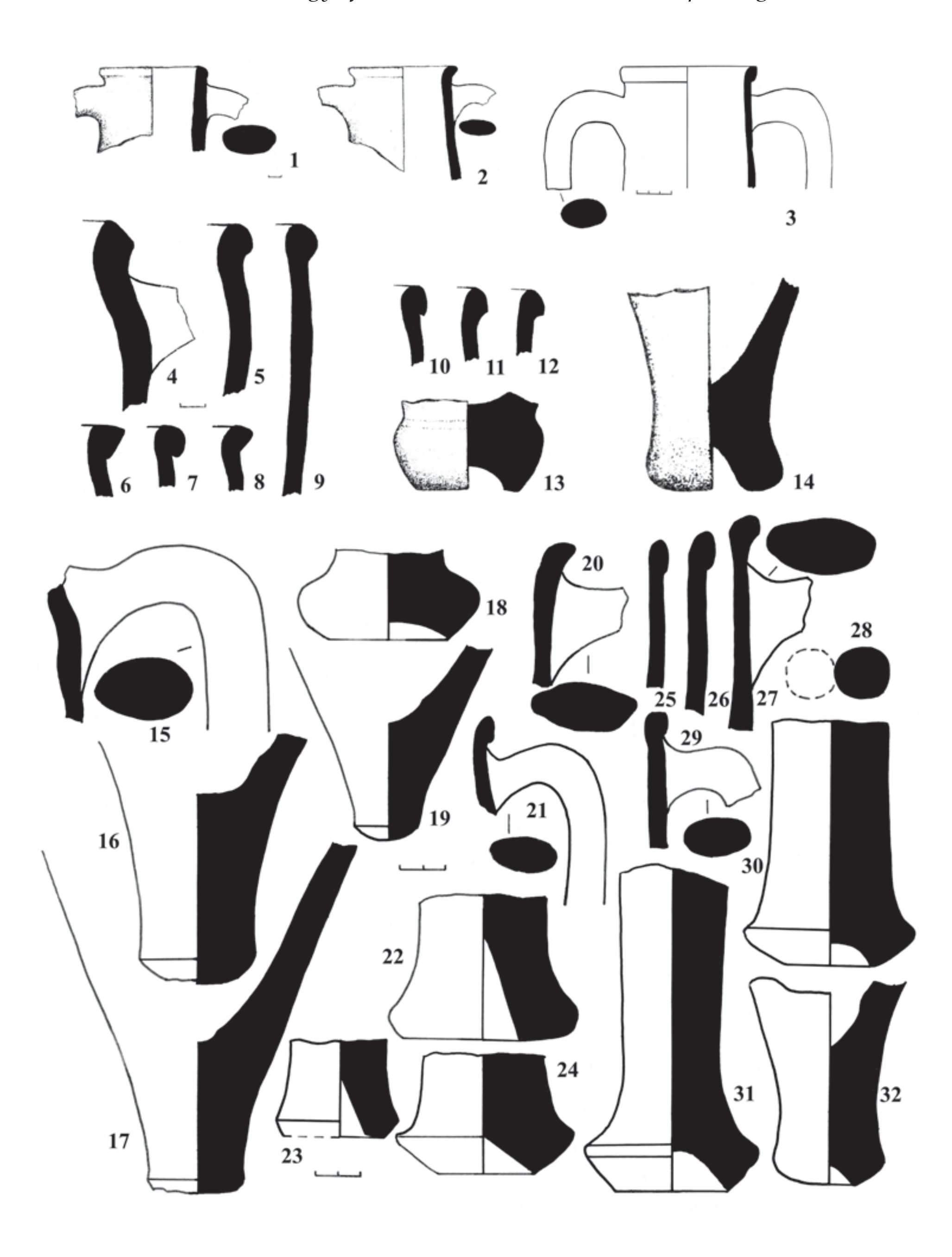


Fig. 11. Amphoras from the Lysaja Gora settlement (1-13) (after Gavriljuk, Bylkova & Kravčenko 1992, 46, fig. 6); the Pervomaevka 2 settlement (14-24) and the Černeča settlement (25-32).

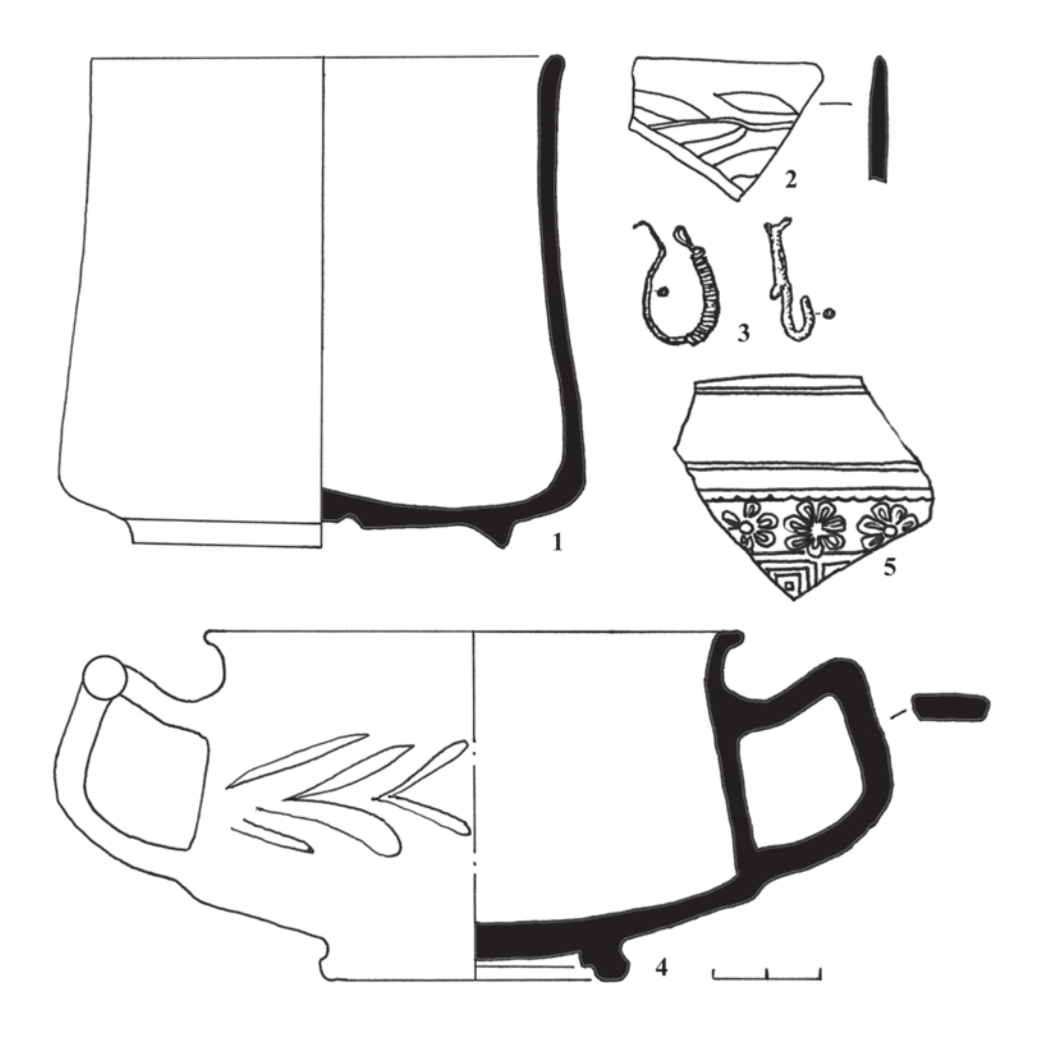
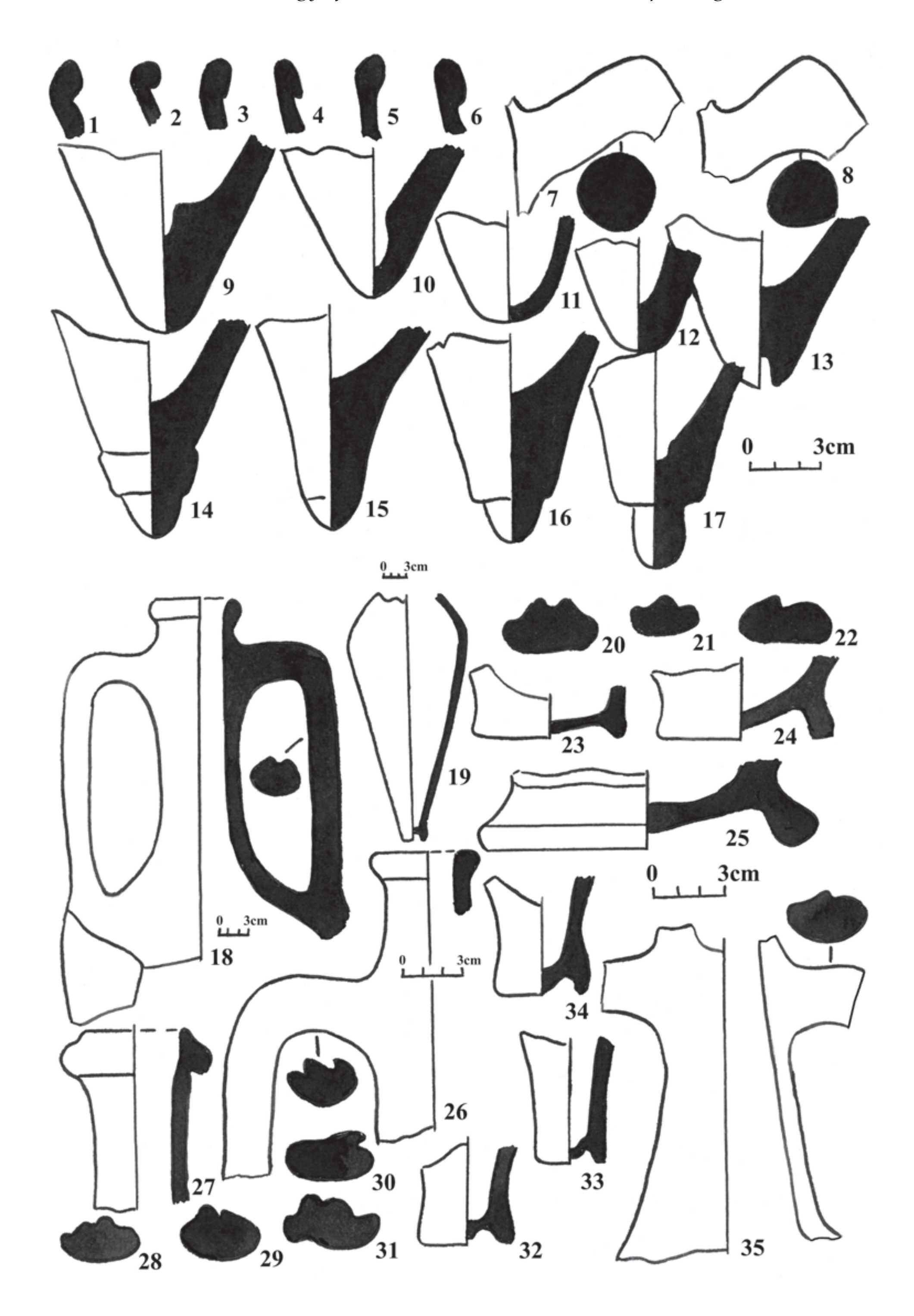


Fig. 12. Glazed pottery, bronze earrings from the Annovskoe (1-3) and Ljubimovskoe (4-5) settlements: 3-8) after Gavriljuk & Abikulova 1991, part 1, 46, fig. 18.5; 4) no. A-101/1685 in the Kachovka museum; 5) collection of 1988 in the Cherson museum.

Fig. 13. Types of amphoras in the Late Scythian settlements in the Lower Dnieper region according to M. Abikulova (Gavriljuk & Abikulova 1991, part 2, 42, fig. 6).

⟶


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
0 3cm
0 3cm
18
19
20
21
22
23
24
25
0 3cm
0 3cm
0 3cm
26
27
28
29
30
31
32
33
34
35

Notes

1 I would like to thank the organizers and participants in the conference for the opportunity to establish contacts and discuss chronological questions. I am especially grateful to Mark Lawall for his input on amphora dating. I am also much indebted to S. Djačenko, Cherson regional museum, who took the trouble to prepare illustrations for my paper.
2 Abikulova 1977; 1979.
3 Bylkova 1996.
4 Brašinskij 1984b.
5 Monachov 1999a, 167-168.
6 Brašinskij 1965.
7 Monachov 1999a, 194-201.
8 Zajceva 1984, 111-120, table VI.
9 Bylkova 1996b.
10 Bylkova 1992.
11 Anderson 1954, 175, fig. 9 k.
12 Kac 1994, 83.
13 Rotroff 1997b, 87, pls. 80 and 81.
14 Kac 1994, 52-53, 76.
15 Abikulova 1979; Kryžickij, Bujskich & Otreško 1990, 40, 69-70.
16 Bujskich 1989, 20; 1988, 5-9; 1990, 22.
17 Bujskich 1988, 9-10.
18 Ratner 1950.
19 Brašinskij 1980, 160, no. 242, 111, no. 48, 115, no. 75.
20 Monachov 1999a, 160-161.
21 Monachov 1999a, 275.
22 Bujskich 1993, 80-82; Bujskich & Ostroverchov 1994.
23 Kryžickij, Bujskich & Otreško 1990, 72, fig. 13.
24 Abramov 1993, 87, no. 2.62.
25 Monachov 1999a, 271, 282-283, 317.
26 Shear 1969, 392, pl. 103.f; Vanderpool et al. 1962, 37, pl. 20, no. 37; McCredie 1966, 11; Korovina 1983, no. 63; Rotroff 1997b, no. 26; Hannestad, Stolba & Ščeglov 2002, 132-133, no. B 8.
27 Čičikova 1984, 79, 110, no. III 109; Parovič-Pešikan 1974, 109-110, fig. 93.6.
28 Kac 1994, 83 no. 1.
29 Bujskich 1990, 7.
30 Fedoseev 1994.
31 Conovici 1998, 39.
32 Alekseev 1986.
33 Bujskich 1989, 16.
34 Bujskich 1990, 13.
35 Monachov 1990, 14.
36 Anderson 1954, 175, fig. 9.f; Abramov 1994, 76, no. 2.12; Monachov 1999a, 137, fig. 45.9.
37 Lancov 1994, 84-85, fig. 9.17.
38 Zolotarev 2002, 70.
39 Lejpunskaja 1981, 56-57.
40 Anochin 1989, 104.

41 Anochin 1989, no. 26.
42 Kac 1994, 96-97.
43 Efremov 1992, 258-259.
44 Alekseev 2001, 75.
45 Analogies are: Čičikova 1984, 68-69; Edwards 1975, 20, pl. 69 et al.
46 Anochin 1989, 107-108.
47 Bylkova 1994; 1996a.
48 Monachov 1999a, 330-331.
49 Avram 1996, no. 173.
50 Debidour 1986, 331.
51 Avram 1996, no. 269.
52 Conovici 1998, 33.
53 Fedoseev 1994.
54 Anochin 1989, 105-106.
55 Fedoseev 1993b; 1994, 189.
56 Conovici 1998, 32-33.
57 Blondé, Muller & Mulliez 1991, 220, 222.
58 Monachov 1992.
59 Papadopoulos & Paspalas 1999, 181.
60 Monachov 1989a, 42-59.
61 Empéreur & Garlan 1992, 18-19.
62 Koehler 1982.
63 Cecchladze 1992, 92-93.
64 Clinkenbeard 1986, 360-361, fig. 5.
65 Pemperton 1997.
66 Kobylina 1951; Boardman 1989, 190-191.
67 Jones, Sackett & Graham 1962, no. 11; Blondé 1985, nos. 7-8.
68 Alexandrescu 1978, no. 554; Drougu 1991, 45.
69 Williams & Fisher 1970, no. 41; Schlorb-Vierneisel 1966, no. 148.1; Rotroff 1997b, no. 150.
70 Cook 1965, 145-146; Corbett 1955, 177-181.
71 Oakley & Rotroff 1992, no. 303.
72 Rotroff 1997b, no. 965.
73 Monachov & Rogov 1990b, 130; Blondé 1989, nos. 38-39; Rotroff 1997b, nos. 81-83.
74 Monachov & Rogov 1990b, 129-130; Alexandrescu 1978, no. 577; Blondé 1989, nos. 52-53; Rotroff 1997b, nos. 1-2.
75 Rotroff 1997b, no. 965; Jones, Graham & Sackett 1973, no. 25.
76 Parovič-Pešikan 1974, fig. 92.1-3, Type II; Alexandrescu 1978, 105, no. 687; Kozub 1974, 99.
77 Alexandrescu 1978, no. 611.
78 Blondé 1989, no. 88; Blondé 1985, nos. 168-173.
79 Shear 1969, 391, pl. 103.1n; Parovič-Pešikan 1974, 114-116, types I-II; Anderson-Stojanovič 1993, nos. 6, 8, 16.
80 Kryžickij et al. 1989, 127.
81 Kryžickij et al. 1989, 155-156.
82 Grakov 1954.
83 Gavriljuk 1999, 35-59.
84 Plešivenko 1992, 169, pl. 4.
85 Avram 1996, 86, no. 13.

86 Grakov 1954, 146, no. 3.
87 Zaginajlo 1967, 60-61.
88 Gavriljuk 1999, 49, 57.
89 Garlan 1993, 152-153.
90 Knipovič 1955, 376.
91 Kac 1994.
92 Volčkova 1956.
93 Karjaka 1997.
94 Plešivenko 1992, 166, pls. 2.169, 4.
95 Kac 1994, no. 90.
96 Gavriljuk, Bylkova & Kravčenko 1992, part 1, 29.
97 Monachov 1992, 169, 172.
98 Pogrebova 1958.
99 Pogrebova 1958, 117, figs. 8.143, 19.142-144.
100 Kac 1994, 87-88, 101.
101 Pogrebova 1958, 146.
102 Finkielsztejn 2001, 165, 195, tabs. 16 and 21.
103 Grace & Savvatianou-Petropoulakou 1970, 364, E236.
104 Zajcev & Puzdrovskij 1994, 227, fig. 8.10.
105 Zajcev 1995, 82-83, pl. 7.19.
106 Rotroff 1997b, 226-227.
107 Bouzek 1990, 74.
108 Bilde 1993, 200, 205-206.
109 Vnukov & Kovalenko 1998.
110 Kasparova 1984, 114.
111 Grakov 1954, 146, no. 6.
112 Anochin 1989, 111, nos. 314-319.
113 Pogrebova 1958.
114 Pogrebova 1958, 180, figs. 31.2, 31.4.
115 Pogrebova 1958, 223.
116 Dusenbery 1998, 1066-1071.
117 Pogrebova 1958, 220.
118 Vjaz'mitina 1962.
119 Vjaz'mitina 1962, 150.
120 Vjaz'mitina 1962, 149, fig. 70.13; 156, fig. 71.9.
121 Vjaz'mitina 1962, 148, fig. 69.3.
122 Conovici 1998, no. 42.
123 Zeest 1960, Type 62 of the 1st century BC-1st century AD; Ščukin 1970, 57.
124 Ščukin 1970, 56.
125 Vjaz'mitina 1962, 170-177, figs. 72-74.
126 Gavriljuk & Abikulova 1991.
127 Kac 1994, 91, no. 32.
128 Gavriljuk & Abikulova 1991, part 1, 22, 47, fig. 19.1.
129 Vjaz'mitina 1962, 177, 169, fig. 72.9.
130 Gavriljuk & Abikulova 1991, part 1, 5-8.
131 Vjaz'mitina 1962, 170-171, fig. 73.2.
132 Korpusova 1983, 109, 56, fig. 15.12
133 Abikulova 1990; 1994.
134 Hayes 1991, 18.
135 Vnukov 2000, figs. 4-6.

136 Vnukov 1988, 199-204.
137 Bodjanskij 1961, 32.
138 Anochin 1989, 111-112.
139 Polin 1992.
140 Otreško 1982, 43-45.

Problems of the Chronology of the Late Hellenistic Strata of Olbia

Valentina V. Krapivina

The period from the end of the 2nd to the first half of the 1st centuries BC is still among the least known in the history of Olbia. This was a period when the political situation on the northern littoral of the Black Sea was characterized by, from one side, great activity on the part of the barbarian tribes exerting pressure on the Greek cities, and, from the other, a struggle between the Pontic King Mithridates VI Eupator and the Roman Empire for domination of the region.

This article aims to highlight the main problems of the chronology of the late Hellenistic strata in Olbia, to which, as yet, there are no solutions, and which demand a large-scale, additional study. It has to be underlined that this concerns first of all the latest Hellenistic stratum of the city, i.e. from the end of the 2nd to the first half of the 1st century BC.

Less intricate is the situation with the layers of the 3rd-the first half of the 2nd century BC, which have been observed in all parts of the city. From the last quarter of the 4th till the turn from the 4th to the 3rd century BC, major rebuilding work was undertaken throughout the entire territory of the city. Later, by the middle of the 3rd century BC, nearly all the houses had undergone substantial restoration. The second half of the 3rd century is distinguished by a decrease in building activity, being a period when no new temples and administrative edifices were built and the old ones were not restored.[1] The rebuilding of the houses, which can be attested for the 2nd century BC, usually led to a reduction in their size.[2]

The rural settlements of the Olbian *chora* on the right bank of the Bug River ceased to exist not later than the middle to the end of the 3rd century BC, while as regards the settlements of the left bank, evidence shows that habitation only ceases after the middle of the 2nd century BC.[3] Probably their inhabitants moved back to Olbia or to the other Greek cities, or to the settlements of the Lower Dnieper region.[4] It does not seem to be fortuitous that the springing up of the Lower-Dnieper fortified settlements in the 3rd – 2nd centuries BC coincides with the time of the downfall of the settlements of the Olbian *chora*. Therefore, it is likely that the inhabitants of the latter might well have taken part in establishing these settlements, which would explain their considerable Hellenisation.[5]



Fig. 1. Olbia. City plan with excavated areas.

At the same time in the city of Olbia layers of the second half of the 2nd century BC were revealed in nearly all excavated areas.[6] Only a few of the buildings had ceased to exist by the middle of the 2nd century BC: the *gymnasion*, the administrative building to the south of it,[7] some houses in the central part of the Upper City including the residences of the prosperous citizens[8] and the single houses in the northern part of the Lower City. The buildings near the agora and to the east of the Western Temenos[9] and the richest houses of

the southern part of the Lower City were rebuilt in the first half of the 2nd century BC. Their cellars, which were no longer used, were filled up.[10]

A famous decree of Protogenes (*IOSPE* I², 32) dated to the two last decades of the 3rd century BC provides the first evidence of foreigners and citizens of Olbia leaving the city because of the threat of barbarian invasion. Shortly afterwards, in the first half of the 2nd century BC, the situation worsened. So, the Olbian decree honouring Neikeratos, son of Papias, (*IOSPE* I², 34) mentions the enemies constantly attacking the *polis* as well as some of the citizens escaping to Hylaia. Neikeratos himself perished in this struggle with the enemy.

In the 2nd century BC no new fortifications for the city were erected. The defensive lines constructed back in the 4th – 3rd centuries were still in use and only urgent repairs in especially weak places could be carried out.[11] This was confirmed by the inscription of Posideos, son of Dionysios, who dedicated the defensive wall to Demeter, Kore, Plouton and Demos. The above-mentioned inscription was found in the northern part of the Lower City, not far from the supposed line of the northern defensive wall, and on the basis of the paleography and the historical context it can be dated not earlier than the middle of the 2nd century BC.[12]

Perhaps the city walls were strengthened before the protectorate of the Scythian King Skilouros. The coins struck in Olbia in his name, however, did not supplant the city's own coinage.[13] Both this fact and the inscriptions of the second half of the 2nd century issued in the name of the *boule* and the *demos* (*NO* 27, 35-38) evidence the main political rights upheld by the city. The main officials of the city continued to perform their functions during this time as well.[14]

Trading connections were reduced insignificantly. So, for instance the quantity and assortment of the import of the relief ceramics to Olbia was especially large in the second half of the 2nd century BC. Apart from the Attic ware all groups of the mould-made pottery (from Miletos, Ephesos, Pergamon, Samos, Rhodos, Syria etc.) were encountered in the city's layers. From this period are finds of the so-called "Megarian" bowls, marked with the names Κυρβεος and Ποσιδεος, workshops which have been identified as being located in Smyrna. And they are even more numerous than in other Greek Black Sea centers, except Tyras.[15]

It is worthy of note that the *proxenia* to the citizen of Smyrna Stephanos, son of Alexander (*NO* 27), part of which was found on the Central Temenos of Olbia to the east of the temple of Apollon (sector E-3; excavations of E.I. Levi and A.N. Karasev), is datable to the same period. Another part of the decree came from the south-eastern part of the city (sector R-25 on the territory of the citadel).[16] Ju.G. Vinogradov was in fact the first who saw them as two parts of the same inscription and ascribed it to the time of the Scythian protectorate over the city.[17] The word βασιλικά restored in one of its parts enabled him to connect the inscription with Mithridates VI Eupator and to date

it to about 100 BC. On the other hand, A.I. Ivantchik working from the shape of letters considered it to be earlier than the inscription *IOSPE* I^2, 35 reliably dated to the time of Mithridates. In addition he noticed that the text reveals that the inscription was placed in the sanctuary of Apollon. Arguing that by the end of the 2nd century the Central Temenos had already ceased to exist, and working from the reconstruction of the βασιλικά he assumes the connection of the decree with Skilouros and his protectorate over Olbia.[18] Moreover, this could be the usual type of 2nd century honorific decree, which alongside the finds of the relief ceramics of that period proves fairly close connections between Olbia and Smyrna.

At the end of the 2nd century BC the central, the western and the southern quarters in the agora area, the north-eastern and the south-eastern quarters in the area of the Zeus Kurgan as well as the north-eastern district (sector I near the city walls) fell into disuse. The main monuments of the agora perished, its system of water supply and reservoir were filled up with earth.[19] The houses in the southern part of the Lower City fell into ruin around the turn from the 2nd to the 1st century BC.[20] The decline in the city's building activity at that time manifested itself in the absence of new constructions, in the destruction of already existing buildings as well as in the appearance of the "empty areas" within the city's territory.[21]

All the temples of the Central Temenos had already ceased to function by the end of the 2nd century BC. The marble elements of the main city's altar and the decrees cut on the marble slabs were broken up even earlier.[22] It is likely that this might have happened even before the protectorate of Skilouros. Ju.G. Vinogradov's suggestion that the main altar remained in use after the destruction of the temples until the city was captured[23] conflicts with the observation of A.N. Karasev, the investigator of the Central Temenos of Olbia, that according to archaeological context the marble slabs of the altar and the decrees on marble steles were destroyed before all the temples were pulled down.[24]

This assertion was proved twenty years later during the excavations in sector R-19.[25] A number of architectural details of the Ionic and Doric orders, large stone slabs and four statue bases with dedications to Apollon Delphinios, Zeus Olympios, Zeus Eleutherios and All Gods were found in the ruins of the defensive wall.[26] There can hardly be any doubt they were taken from the temenos' area where two main temples of Apollon Delphinios and Zeus, one of the Ionic order another of the Doric, were once situated. The pedestals found can be dated broadly from the 4th to the first half of the 2nd century BC.[27]

According to a widely accepted notion, most life in the central and the northern parts of the city ceases by the end of the 2nd century BC. This might be the point that led Ju.G. Vinogradov to an erroneous conclusion that most of the Upper City's territory south of the Severnaja ravine was devoid of the cultural layer datable to the 1st century BC and the city's territory was reduced to the southern part only.[28] However, excavations by the author as well as a

careful examination of the reports of previous excavations proved that in the southern part of Olbia the layers from the end of the 2nd and from the 1st century BC are also rather scarce. Thus the situation here is similar to that in the other parts of the city.

The main problem of the late Hellenistic strata in Olbia is their bad state of preservation. As a rule it is difficult to expose them because of the thick layers of the previous period of the 3rd – the first half of the 2nd century BC as well as due to building activities of the 1st – 3rd centuries AD, which have partly destroyed them. At present a very thin layer from the end of the 2nd to the first half of the 1st centuries BC has also been laid bare in the northern part of the Lower City.[29] Furthermore, the Western Temenos situated not far from the Central one, north-west of it, continued in use. This was the earliest sacred place in Olbia, which existed without interruption from the second quarter of the 6th century BC until the invasion of the Getae.[30]

According to S.D. Kryžickij, who discussed the small one/two-chambered late Hellenistic constructions built on the site of the former houses in the north-western part of the city (sector S-Z), they could hardly have existed any later than the middle of the 2nd century BC, for later on the potter's kilns appeared here and in the north-eastern part of the city (sector I). Thus, in the second half of the 2nd – the first half of the 1st century BC vast territories must have appeared in the northern part of Olbia, which were turned into the manufacturing district.[31]

It is, however, my belief that these small one/two-chambered constructions continued to exist until the mid 1st century BC, likewise the houses in the north-eastern part of the city (sector I), for the potter's kilns seemed to appear here and on the site of the Central Temenos only later. According to the stratigraphical observations and the latest finds they can be dated to the period from the beginning of the 1st until the beginning of the 2nd century AD. These kilns revealed mainly the finds of tiles and bricks, which the city needed while being restored following the Getic invasion rather than in the period of decline.[32]

Around the mid 2nd century BC the city's necropolis was moved closer to the city walls and occupied the territory along the Zajač'ja ravine. The burials of the late Hellenistic period are not numerous, though they do exist.[33]

Indeed, from the end of the 2nd to the first half of the 1st century BC there was a period when Olbia was suffering a severe crisis, both economically and politically. Nevertheless, according to archaeological, numismatic and epigraphic evidence, life continued here. So, the inscription *IOSPE* I^2, 201, which can be dated to about 100 BC lists the names of the Olbian citizens, who served as the eponyms of the city and the priests of Apollon.[34] Two further inscriptions are connected with the time of Mithridates VI. One of them is a well-known Olbian decree honouring the κυβερνήτης from Amisos (*IOSPE* I^2, 35), while another is a new inscription recently found in the south-eastern part of the Upper City of Olbia (sector R-25).[35] Also dated to about 100 BC is

the decree of Tomis honouring a certain Nilos from Tyras, who constantly took care of everyone, making their way to Olbia.[36]

Similarly, Olbian issues of bronze coins seem to continue without interruption until the third quarter of the 1st century BC.[37] Maintaining the features of the city's autonomous coinage these specimens reveal, however, the Pontic influence.[38] The bronze Mithridatic issues of the cities of Pontos and Paphlagonia are very well represented in Olbian finds as well. Especially numerous are the coins of 111-105 BC; the coins of 105-90 BC are twice as rare; and those of the second decade of the 1st century are somewhat few in number.[39]

At the end of the 2nd century BC both the number of the coins found and the import of relief ceramics was reduced considerably. However a small number of workshops, namely those of Pergamon and the Bosporos, continued to supply their production to Olbia until the first third of the 1st century BC.[40]

Thus, at the end of the 2nd century BC the situation, which in the previous period was not good either, changed for the worst. The barbarians constantly attacking the city may have succeeded in reducing part of it to ruins. Dio Chrysostomos (*Or*., 36.4) mentions repeated captures of the city, which had taken place before the invasion of the Getae:

> The city of Borysthenes, as to its size, does not correspond to its ancient fame, because of its ever-repeated seizure and its wars. For since the city has lain in the midst of barbarians now for so long a time – barbarians, too, who are virtually the most warlike of all – it is always in a state of war and has often been captured, the last and the most disastrous capture occuring not more than one hundred and fifty years ago. And the Getae on that occasion seized not only Borysthenes but also the other cities along the left shore of Pontus as far as Apollonia (transl. H. Lamar Crosby).

Probably some of the inhabitants had abandoned Olbia even before the invasion of the Getae thus taking refuge among the "friendly barbarians" as the citizens of Istros did.[41] There was no life, neither in the central part of the Upper City, north and west of the Central Temenos, nor in the southern part of the Lower City where the houses of the rich Olbiopolitai had been located. Perhaps some of those citizens genuinely did leave the city in the period of decline (before the city's incorporation into the Pontic kingdom) leading to the appearance of "empty" territories.

The history of Olbia during that period was connected with Mithridates VI Eupator. Two inscriptions found in Olbia testify to that. Part of the population left the city while the others asked Mithridates VI for help. The above-mentioned decree (*IOSPE* I^2, 35) honouring the κυβερνήτης, son of Philokrates, from Amisos gives details of the Olbian ambassadors to Mithridates as well as their return together with a new group of the Armenioi sent by the king. New troops were quartered together with the previous garrison in a specially

organized camp. Mention of the captain, who during the stormy weather brought some needed goods for the Armenioi who had arrived at Olbia earlier, highlights a deep economic decline in the city, which was not able to supply even the garrison.

According to palaeographical features the decree can be assigned to the last decade of the 2nd – the first decade of the 1st century BC.[42] The exact date of the protectorate of the Pontic kingdom over Olbia is not clear, though.[43] It is tempting, however, to link the subjugation of Olbia to Mithridates with the most numerous finds of the coins of Pontos. Possibly the interdependence of these phenomena was not that straightforward. The number of the coins found in the city could also testify to the development of the economic connections with the *poleis* of the Pontic kingdom, which preceded the protectorate. It can be confirmed, to my mind, by the above-mentioned decree in honour of Stephanos, son of Alexander, and the increasing importation of the late Hellenistic relief ceramics. With the incorporation of Olbia into the Pontic kingdom the character of economic connections might have changed. It has to be born in mind that in the second – third decades of the 1st century BC when the flow of the Pontic bronze currency to Olbia had thinned considerably the *polis* issued a new series of its own coins.[44]

The new inscription found in Olbia in 2002 is carved on a statue base of white marble. Apart from the two first lines, which can be easily restored, it is well preserved.[45] According to the inscription Diogenes, son of Thyaios, the *strategos* of Mithridates Eupator and his governor-general in Olbia dedicated the defensive wall to the Mother of the Gods. The stone is dated to the year ΚΣ (220) of the Pontic era (=78/77 BC).

We do not know when the troops of Mithridates left Olbia, but in 77 BC they were still there. Probably that year they finished the strengthening of the Olbian fortifications. The ruins of one of these walls were revealed on the central high ground of Olbia, where the secondarily used architectural elements and the statue bases from the Central Temenos (see above) were found. Now it becomes clear that the stone from the Central Temenos was taken away not at the end of the 2nd but rather in the first – second decades of the 1st century BC, before 77 BC.[46] This was done by the garrison of Mithridates in order to strengthen the fortifications of the city. It is likely that the walls and the towers like the temples of the Central Temenos were partly damaged during the barbarian attacks.

Although the city continued to exist within the previous boundaries it still remains unclear which parts of it have been preserved, what the real size of the inhabited area was and where exactly the garrison of Mithridates Eupator was quartered.

Neither is it any clearer what sort of relations Mithridates' deputy enjoyed with the local authorities of Olbia. The numismatic data from the northern and southern coasts of the Black Sea testify to the restriction of the sovereignty of the dependent Greek states in the 80-70s BC.[47] To a certain extent the new

Olbian stone can confirm that. While *IOSPE* I^2, 35 is still issued in the name of the Council and the Assembly, the new inscription refers to Mithridates' governor-general and begins with the name of the king. Moreover, it is dated according to the Pontic era, not by the names of the priests-eponyms of the city.

We do not know exactly when Olbia freed itself from the subjugation of the Pontos. However, the rule of Mithridates over Olbia could hardly survive after 71-70 BC when his troops were defeated by the Roman army in Asia Minor and on the western Black Sea littoral.[48] Probably Olbia, being left in a critical situation without any military support from the king's side, automatically slipped out of his control.[49]

The invasion of the Getae of Burebista in the middle of the 1st century BC interrupted the history of the late Hellenistic city of Olbia and put an end to its life for several decades.

Notes

1 Levi 1985, 27, 37, 52-53, 151; Lejpuns'ka 1994, 86.
2 Levi 1985, 151.
3 Kryžickij et al. 1989, 150.
4 On the settlements of the Lower Dnieper region, see Bylkova in this volume.
5 Vjaz'mitina 1962, 109-112; 1972, 182; Wąsowicz 1975, 109-117; Gavriljuk & Abikulova 1991, I, 15, II, 30.
6 Levi 1985, 26-27, 37, 43, 45, 53, 61, 73, 111, 151.
7 Levi 1985, 111.
8 Lejpuns'ka 1994, 86.
9 Lejpuns'ka 1999, 74.
10 Levi 1985, 43, 52-53, 61.
11 Levi 1985, 23.
12 Lejpunskaja 1990, 119.
13 Karyškovskij 1988, 102; Anochin 1989, 52-53.
14 Vinogradov 1989, 241.
15 Kovalenko 2002, 91-92.
16 The excavations by the author and A.V. Bujskich
17 Vinogradov 1989, 241.
18 Ivantchik 2002, 138.
19 Levi 1985, 27, 37, 43, 45, 151.
20 Farmakovskij 1915, 10, 23; Levi 1985, 61.
21 Kryžickij 1985, 132.
22 Levi 1956, 113 and further; Karasev 1964, 46.
23 Vinogradov 1989, 248.
24 Karasev 1964, 46.
25 Excavations by the author.
26 Rusjaeva & Krapivina 1992.
27 Vinogradov 1989, 262; Rusjaeva & Krapivina 1992, 31.
28 Vinogradov 1989, 261-262.
29 Lejpunskaja 1998, 101.

30 Rusjaeva 1991, 123-138.
31 Kryžickij 1985, 130-131.
32 Krapivina 1993, 68-71.
33 Kozub 1984, 164.
34 Karyškovskij 1978, 82-88; Vinogradov 1989, 220.
35 Excavations by the author and A.V. Bujskich in 2002.
36 Grakov 1939b, 310, no. 2; Vinogradov 1989, 261.
37 Karyškovskij 1988, 102-103; Anochin 1989, 55.
38 Zograf 1940, 293-295.
39 Karyškovskij 1988, 102-103. On the chronology of the Mithridatic bronzes, see now F. de Callataÿ in this volume.
40 Kovalenko 2002, 92-93.
41 Anochin 1989, 57.
42 Vinogradov 1989, 261. See also McGing 1986a, 56 and Karyškovskij 1988, 102.
43 For the historiography of the question, see Vinogradov 1989, 251.
44 Karyškovskij 1988, 103.
45 Krapivina & Diatroptov (forthcoming).
46 A.N. Karasev and E.I. Levi were right dating the end of the existence of the Central Temenos of Olbia to the end of the 2nd century BC, but that does not mean that it was immediately destroyed. Probably it took some time to fall into ruin, some of the stone material later being used for the fortifications.
47 Šelov 1983, 52-53; Karyškovskij 1988, 104-106; Vinogradov 1989, 259.
48 Šelov 1983, 41.
49 Vinogradov 1989, 263.

Absolute and Relative Chronology of Scythian Neapolis in the 2nd century BC

Jurij P. Zajcev

Scythian Neapolis, which is mentioned by Strabon (7.4.7) and the inscriptions (*IOSPE* I^2, 352), is the largest and certainly the most investigated barbarian fortress of the northern Black Sea region (Fig. 1). Its archaeological history is divided into five periods and covers an interval from the 2nd century BC up to the 3rd century AD.[1] The most glowing and significant time in life of the city falls into the second half of the 2nd century BC, when the fortress was a capital and a residence of the King Skilouros.[2] The main complex of the fortress in this period was the royal (Southern) Palace with the Mausoleum of Skilouros and Argotas (Fig. 2.1).

The building of the Southern Palace was discovered at the central gate of the fortress and was excavated in three stages: 1945-50, 1955-59 (under direction of P.N. Schulz), and 1989-99 (the last years under direction of the author).

Besides the architectural remains, a special significance in our case has a distinct layer of the Late Hellenistic period. Here were found more than 400 stratified amphora stamps, eight coins, brooches, gold ornaments, beads, and various imported pottery (Figs. 3 and 4). The excavations of 1946 in the Mausoleum of Skilouros[3] have revealed an abundance of Hellenistic pottery, weapons, gold ornaments, beads as well as other objects. This range of material is comparable with the similar finds from a cultural layer of the Southern Palace.

The careful examination of all this material has made it possible to construct a general chronological column (Figs. 5 and 6). The basic horizons of the column are designated by the letters of the Latin alphabet – from above downwards, in a retrospective sequence. Here a special attention will be devoted to two of them, namely E and D.

Each horizon corresponds to the large-scale changes in the architectural layout of the Palace, which were accompanied by the changes in the structure of the layers. In turn, each horizon is divided into more detailed "sub-horizons" specified additionally by Arabic numerals (for example, D3). Their accumulation might rather be caused by the smaller-scale events such as reorganization or erection of some individual structures, fires, etc., which have not essentially changed the function or the layout of the architectural complex as a whole.



1

0 100m

2

All the archaeological material obtained from the layers E and D was strictly divided up according to the stratigraphical data. The majority of the Rhodian amphora stamps in each layer belong to V. Grace's chronological group V (150-108 BC), the stamps of Group III (220/200-180 BC) being the second largest bunch. Third in quantity are the stamps of Group IV (180-150 BC). The factual distribution of the stamps, however, made obvious a certain contradiction with their chronology suggested by Grace.[4] In spite of this, in 1994 I proposed a detailed "subjective" chronology of the Southern Palace of Neapolis,[5] which was based on the microstratigraphy of the cultural accumulations and covered the period from the 140s to 112/108 BC. This chronology of the Southern Palace has turned out to be consistent with that of the Rhodian amphora stamps put forward most recently by G. Finkelsztejn.[6] So, the stamps of this assemblage include two out of seven his Group-IVa eponyms, three out of seven Group-IVb eponyms, eleven out of twelve Group-Va officials, ten out of twelve his Group-Vb eponyms, six out of his first seven Group-Vc magistrates dated from 120 to 114 BC, and only four stamps from the later period (See Table 1).

The most indicative is the microstratigraphy of the floor inside the main *megaron* where a layer of a total destruction (D1) buried 23 successive levels of a floor (Fig. 6).

These adobe levels are identical in structure and divided by equally thin inter-layers of dirt. Thus, each new surface of a floor was connected with a new layer of plaster on the walls and of the central hearth. From this it becomes obvious that there was a regularity with which the *megaron* was updated. Such a situation has many ethnographic parallels: in various cultures the annual repairs of cult constructions and dwellings, besides being of practical importance also have a deep sacral meaning.[7]

On the basis of many different criteria destruction layer D1 can be linked to the Diophantos Campaigns against the Scythians, which are dated, based on events, to 114-112 or alternatively to 110-108 BC.[8] As the destruction of Scythian Neapolis took place at the end of the Diophantos Wars, the date of the destruction could be defined as 112 or 108 BC respectively. This assumption is consistent with two coins found in the same destruction layer – one from Amisos (young male head in crested helmet/sword in sheath)[9] and one from Pantikapaion (head of Athena in a helmet/prow) (Figs. 3.63 and 3.65).[10]

The hypothetical 23 years corresponding to the number of floors subtracted from the year of the final destruction give us 135 or 131 BC as a date of erection of a new *megaron*. This date can also be proved by a stamp of Aristogeitos, an official of Finkelsztejn's period 5a. Therefore, the upper and lower dates of the *megaron*'s existence should fall within the chronological brackets of the

---

Fig. 1. Situation plan of the settlement of Scythian Neapolis.



entire period 5 of the Rhodian stamping (from c. 145 to c. 108 BC). Following this sequence, the first fire, which corresponds to floor 1 of the *megaron* would have happened about 135/131 BC, and the second fire linked to floor 9 would have taken place in 127/123 BC. The stratification of floors inside the *megaron* is consistent with other alterations, which have taken place in the Palace as a whole.

The following description gives a notion about the detailed composition of horizons E and D.

Horizon E is the earliest. It is divided into two sub-horizons: E2 and E1.

Sub-horizon E2 consists of thin layers of loamy soil, adobe surfaces and floors in several dug-outs and surface buildings (Fig. 2.4.E2). Under the *megaron* were revealed the remains of an earlier surface construction (a proto-megaron), which in turn had nine layers of adobe floors. According to the stratigraphy it was completely rebuilt into the new monumental *megaron* discussed above (Fig. 2.4.E2-1).

The sub-horizon E2 is dated by the following finds: several handles of the Rhodian amphoras, fragments of a black-glazed Attic amphora with twisted handles and painted decoration on the upper body, and the mould-made bowls.

Sub-horizon E1. This layer reveals obvious traces of a fierce fire: the scorched clay and plaster of walls, plentiful charcoal, and burned fragments of pottery. This sub-horizon represented by the local layers and thin intercalations found *in situ* inside and near those buildings of the complex we have mentioned. The *megaron* was the only building of the Palace, which after the accident was carefully cleaned from a layer of Fire. Most “of fire debris” from here was displaced 150 meters to the south, where it was uncovered by excavations in 1979-1988.

The dating material from sub-horizon E1 (or Fire 1) is extraordinarily rich and various. First of all there are more than one hundred of the Rhodian amphora stamps. Also found were various beads of glass, a Middle La Tène bronze brooch, hundreds of fragments belonging to several black-glazed and red-slip vessels, large painted fusiform unguentaria and lagynoi (Fig. 4.1-4, 6, 13-16, 18-20, 22-23, 27-29, 37, 39-41), undecorated unguentaria, lamps, small ceramic altars and thymiateria, frying pans and saucepans made of clay, mould-made bowls, etc.

Thus, the finds in the fire layer include the Rhodian stamps of one eponym of Finkielsztejn’s Group IVb, stamps of five eponyms of Group Va, and four eponyms of Group Vb (see Table 1).

Found burnt in one of the buildings were: a small Rhodian amphora, a lagynos and a pot with double-barreled handles. Found in another building were a red-slip kantharos and a plate (Fig. 4.15, 29), and several Scythian handmade pots and lamps.

One of the ceramic deposits of Fire 1 is especially indicative, for it can be interpreted as a cargo of the burned down vehicle. Found west of the *mega-*

ron, on the area no more than 10-15 m^2 were: an amphora presumably of the Samian manufacture, five Rhodian amphoras, a black-glazed bowl with stamped decoration, the bottom part of an unguentarium and a head fragment of a terracotta thymiaterion shaped originally as a half-figure of Demeter with polychrome painting. Particularly interesting are the upper parts of four Rhodian amphoras with rectangular stamps on the handles. Three eponymic stamps with the name of Anaxandros and the month Panamos are made by the same die. Two of them are associated with stamps of a fabricant Damokles, also executed by one and the same die, and the third one – with a fabricant stamp of Komos. The fourth pair – an eponym Pausanias and a fabricant Timo – belongs to the most massive amphora with a graffito on the shoulder. One handle is marked with a fabricant stamp of Midas.

Horizon D is divided into four sub-horizons: D4-D1.

Sub-horizon D4 is represented by several floors of the *megaron*, and also by a pool made of stone blocks and several fencings. Stratigraphically it directly follows fire E1. At the same time was erected a *heroon* of the King Argotas, constructed as a Doric temple with two columns *in antis* (Fig. 2.4.D4).

Sub-horizon D3. This is a layer of a general reconstruction of the complex, an erection of buildings around the *megaron* and the courtyard. Their construction involved an extensive use of regular blocks of limestone – whole and broken (Fig. 2.4.D3-2).

Sub-horizon D2. This layer reflects a reconstruction of some of the components of the Palace, and a local Fire 2, which is stratigraphically connected with floor 9 of the *megaron* (Figs. 2.4.D3-2 and 6).

The architectural remains of sub-horizons D4, D3 and D2 are accompanied by the homogeneous ashes-loamy soil up to 0.6 m thick. In many places it is intersected by a thin layer of Fire 2, which is also seen on the floors of all three buildings. After this fire and up to the moment of destruction of the *megaron* (sub-horizon D1) the floor was renovated sixteen times (Fig. 6).

In these sub-horizons more than 200 stamped handles of the Rhodian amphoras have been found.

Most of the stamps are of Finkielsztejn's periods Va and Vb (see Table 1).

Found on floor 21 of the *megaron* was a bronze coin of Skilouros (Fig. 6.21).[11] On the same floor a broad-bellied Sinopean amphora was deposited at the place of the hearth.

There were also plenty of various broken imported vessels, such as plates, cups with figured handles, fish-plates, kantharoi, mould-made bowls, lagynoi, unguentaria. More than half of these items are covered by red slip. One of the lagynoi bears a graffito, line 2 of which reads "XAIPE" (Fig. 4.42). Of a special interest are fragments of several white-slipped vessels with painted decoration, which is very rare for the northern Black Sea region. Sets of Greek cooking-ware are also characteristic. These are: saucepan with lids, frying pans and pots with round bottom. It is the only attested case of usage of Greek cooking vessels on a large scale in Scythia.

Sub-horizon D1. This level is represented by crushed yellow clay with fragments of white plaster, fragments of a tile and mud-bricks, and pieces of painted plaster (Fig. 6.D1). It was formed by simultaneous destruction of the mud-brick walls and tiled roofs of the Palace buildings.

Found in this layer were more than 30 stamps of the Rhodian amphoras with names of eponyms of periods IVb, Va, Vb, and Vc (according to Finkielsztejn 2001, see Table 1).

Also found were fine gold ornaments (earring, various beads and appliques) (Fig. 3.55-60), a Middle La Tène bronze brooch (Fig. 3.66), and three bronze coins, of which two are of Pantikapaion, and one is of Amisos (Fig. 3.63-65).

The imported pottery is comparable in number and variety with finds from earlier horizons of the Palace. Particularly interesting is a set of objects from the "Eastern house" of the Southern Palace. Here were found: an unusual painted jug with double-barrel handle, a tiny painted amphora with fluted body, a terracotta of Aphrodite with Eros, a lead weight and bronze keys from caskets.

Thus, it is obvious, that the horizons D and E of the Southern Palace of Neapolis should be definitely dated to the second half of the 2nd century BC. This is, above all, apparent from the presence of numerous Rhodian stamps of the period 150-108 BC (according to Grace) or Finkielsztejn's groups Va-c (see Table 1).

It is also possible to synchronize with sub-horizons D2 and D1 the majority of burials of the Mausoleum, which was built during the general reconstruction of the Palace (sub-horizon D3).

The main burial, namely that of Skilouros, was accomplished in the Mausoleum in 114/113 BC.[12] Actually, for several years members of his clan were buried there – to be close to the body of a king. Among finds from the burials are: unguentaria, red-slip cups and other vessels, a gold brooch and Middle La Tène bronze brooches, two La Tène swords, an iron helmet, a huge quantity of beads and gold ornaments (Fig. 7).

To my knowledge, it is still a unique case in the archaeology of the northern Black Sea region, that both a residence and the burial of the king have been discovered as two parts of a uniform complex.

Thus I have presented a modern chronological model of Scythian Neapolis in the second century BC. And if it will stand the test of time, the rich material assemblage of the Southern Palace after its final treatment can become a touchstone for the northern Black Sea region of the Late Hellenistic period.

Table 1. *Correlation between the Rhodian amphora stamps from Scythian Neapolis and the chronological sequence of the eponyms by Finkielsztejn (2001).*

Group	Eponyms	Date, BC	Ash-hills E3-E2 in the south part of Neapolis[13]	North part of Neapolis, including section D	South-east part of Neapolis[14]	Section excavated in 1926	Southern Palace, horizon E	Southern Palace, horizon D	Other sections of Neapolis[15]
IIIb	Ξενοφάνης	c. 189							
	Πρατοφάνης	c. 188							
	Κρατίδας	c. 187	*		*				*
	Ἱέρων I	c. 186							
	Ἀρχοκράτης II	c. 185							
	Τιμασαγόρας	c. 184		*					
	Φιλόδαμος II	c. 183			*				
	Κλεώνυμος II	c. 182							
IIIc	Ἀγέμαχος	c. 181/179		**					
	Ἀρχίδαμος	c. 180/178							
	Αἰνησίδαμος II	c. 179/177							
	Αἰνήτωρ	c. 178/176							
	Καλλικράτης II	c. 177/175							
	Δαμοκλῆς II	c. 176/174							
IIId	Καλλικρατίδας II	c. 175/173							
	Κλευκράτης I	c. 174/172							
	Σύμμαχος	c. 173/171							
	Νικασαγόρας I	c. 172/170							
	Θεαίδητος	c. 171/169							
	Ἀθανόδοτος	c. 170/168							
IIIe	Ἀρατοφάνης I	c. 169/167				*			
	Ἀριστείδας II	c. 168/166							
	Ἀρίστων II	c. 167/165							
	Ἀριστόδαμος II	c. 166/164							
	Ἀρχιλαΐδας	c. 165/163							
	Ξενοφῶν	c. 164/162							
	Ἀγέστρατος II	c. 161							
IVa	Πεισίστρατος	c. 160	**			*			
	Δαμαίνετος	c. 159/158	*						
	Τιμούρροδος	c. 158/157						***	*
	Ἀριστόμαχος I								
	Ἡραγόρας								
	Σωσικλῆς								*
	Γόργων	c. 154/153			*			*	
IVb	Παυσανίας III	c. 152	**		*	*	**	*	*
	Ξενόφαντος II	c. 151	***		*				
	Εὔδαμος				*	*			
	Πυθόδωρος	c. 150	*					*	
	Πυθογένης					*			

	Ἀλεξίμαχος	c. 147			*				
	Αὐτοκράτης I	c. 146	*					*	
Va	Τιμόδικος	c. 145	*						
	Ἀστυμήδης II	c. 144						*	
	Ἀνάξανδρος	c. 143/142	*				****	***	
	Τεισαγόρας	c. 142/141	*					*	
	Ἀριστόγειτος					*	**		
	Ἀναξίβουλος						**		
	Λαφείδης		*				*	*	**
	Ἀλεξιάδας		**				***	*****	
	Θέρσανδρος	c. 137/136					**	*	*
	Ἀρίστακος			*			*		*
	Ἀνδρίας							***	
	Ἀρχέμβροτος I	c. 134/133	**			*	*	**	
Vb	Ἀνδρόνικος	c. 132	**					*	
	Νικασαγόρας II	c. 131					*****	******	
	Καλλικράτης III	c. 130					***		
	Ἀριστογένης	c. 129							
	Τιμόθεος	c. 128	**				******	***	*
	Λεοντίδας	c. 127						**	
	Κληνόστρατος	c. 126							
	Πολυάρατος II	c. 125			*	*		*****	
	Τεισάμενος							**	
	Ἀρίστρατος							*	
	Τειμαγόρας I							**	
	Ἱέρων II	c. 121						***	
Vc	Ἀρχίνος	c. 120						****	
	Εὐάνωρ	c. 119						**	
	Ἀριστόπολις	c. 118		*				*	
	Ἀριστομβροτίδας	c. 117						**	
	Αἰσχίνας	c. 116							
	Ἀρχίβιος	c. 115						**	
	Ἑστιεῖος	c. 114						*	
	Ναύσιππος	c. 113						*	
	Ἀριστᾶναξ II	c. 112						*	
	Ἀριστείδας III	c. 111							
	Δάμων	c. 110						*	
	Ἀρατοφάνης II	c. 109						*	
	Ἀγορᾶναξ	c. 108							
?	Ἱερομένης	?						**?	
?	Τιμοκλῆς	?						**	
?	Φαινίλας	?						*	
Illegible stamps			****	*		**	******* ******* **	****** ****** ******	***** ***
Number of identified stamps: 155			23	5	8	8	32	70	9
Total number of stamps: 204			27	6	8	10	48	88	17

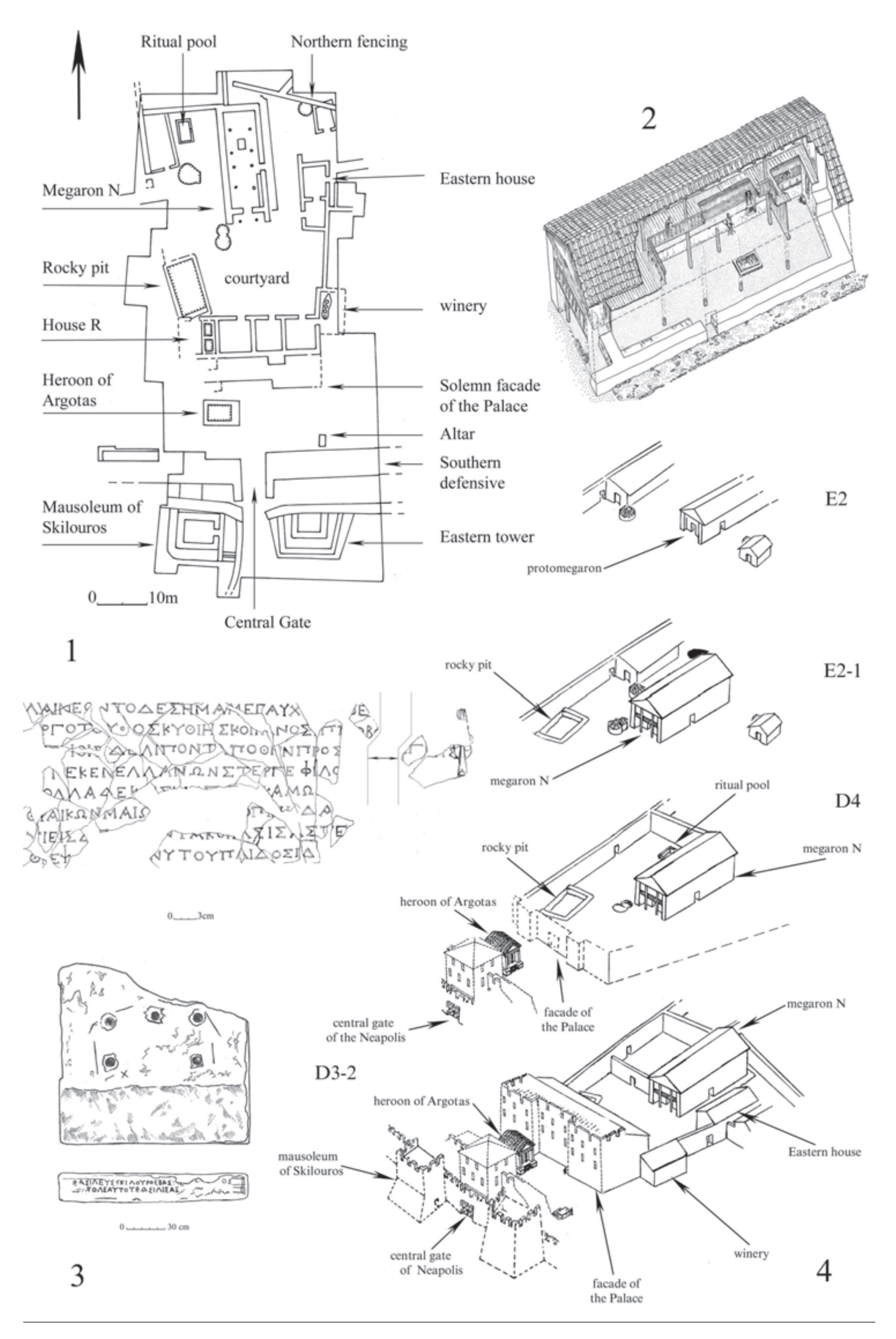


Fig. 2. The Southern Palace of Scythian Neapolis; 1) plan of the Palace; 2) reconstruction of the *megaron*; 3) the inscriptions mentioning the kings Argotas and Skilouros found at the territory of the Palace; 4) the building horizons of the Palace.

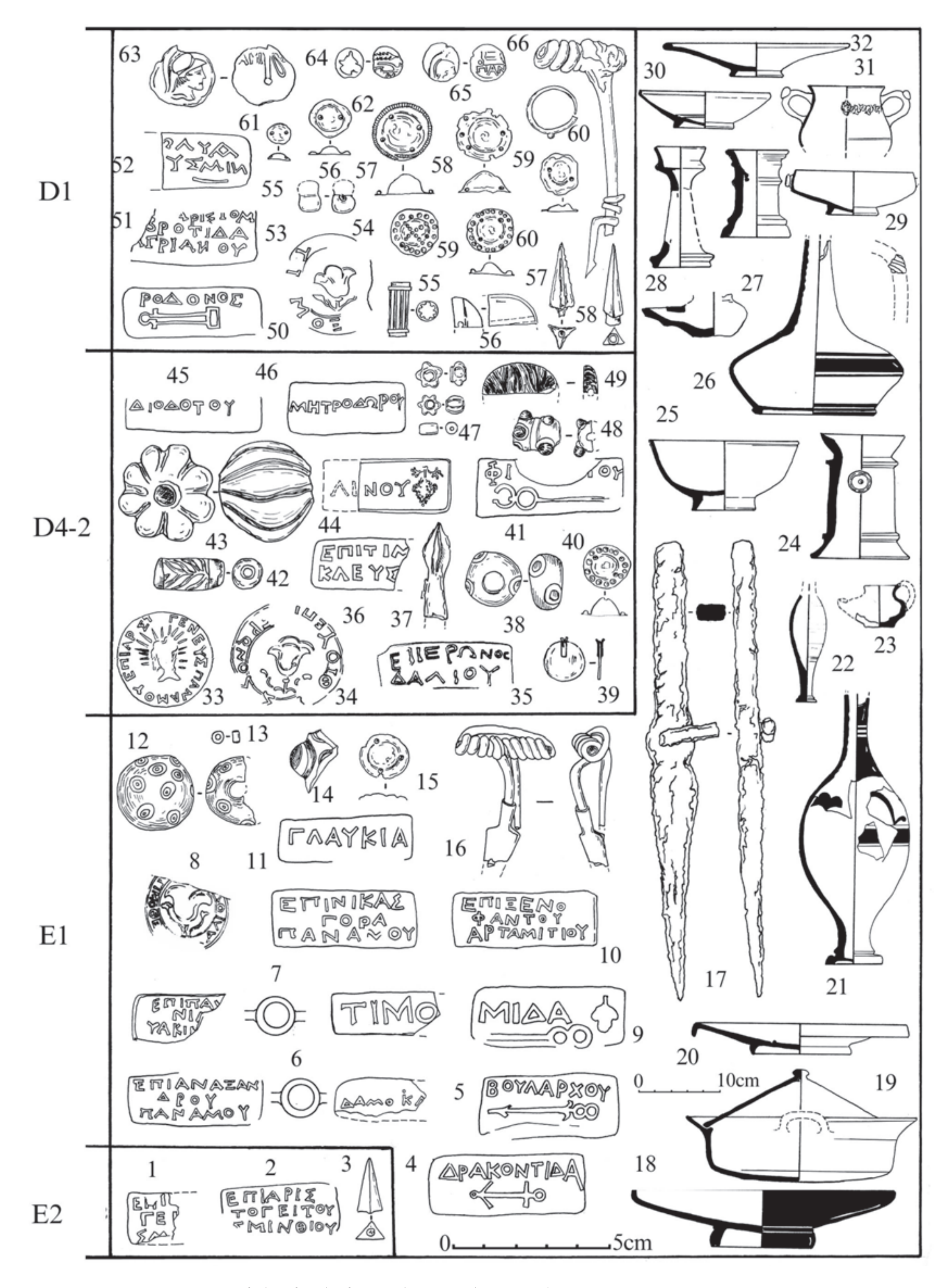


Fig. 3. Some of the finds from the Southern Palace. Horizons D-E.

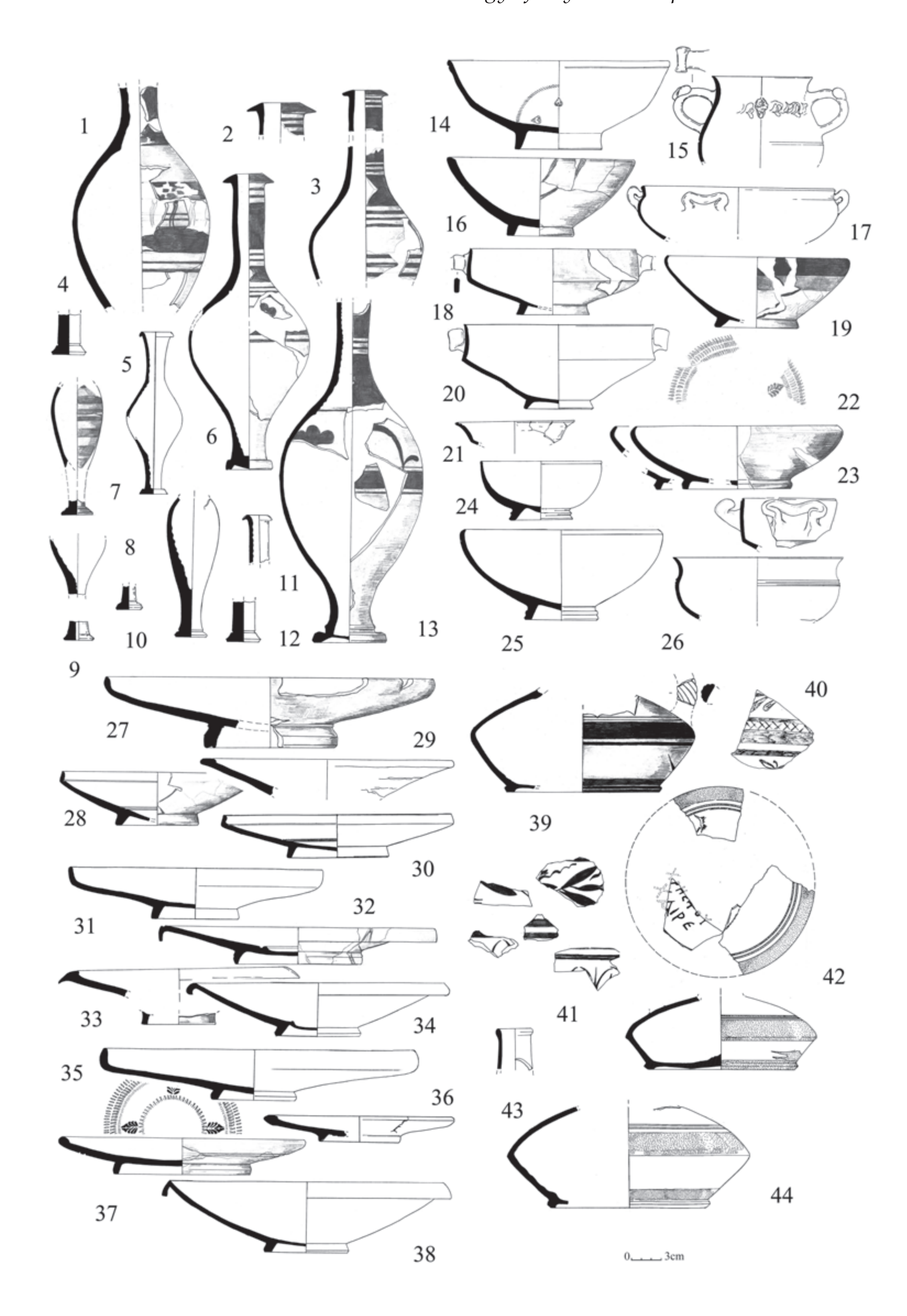


Fig. 4. Samples of imported pottery from the Southern Palace.

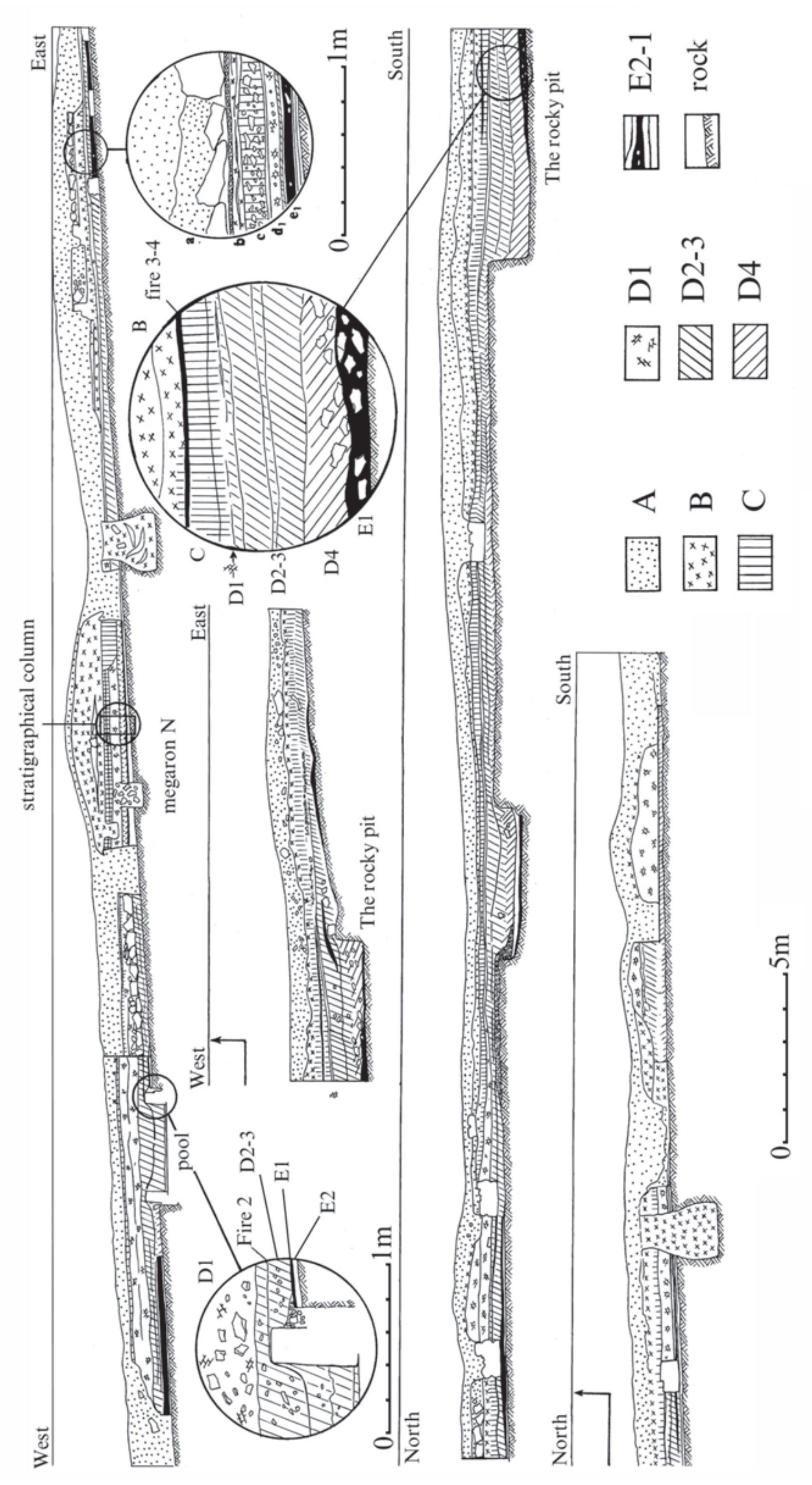


Fig. 5. Basic stratigraphy of the Southern Palace. Horizons E-A.

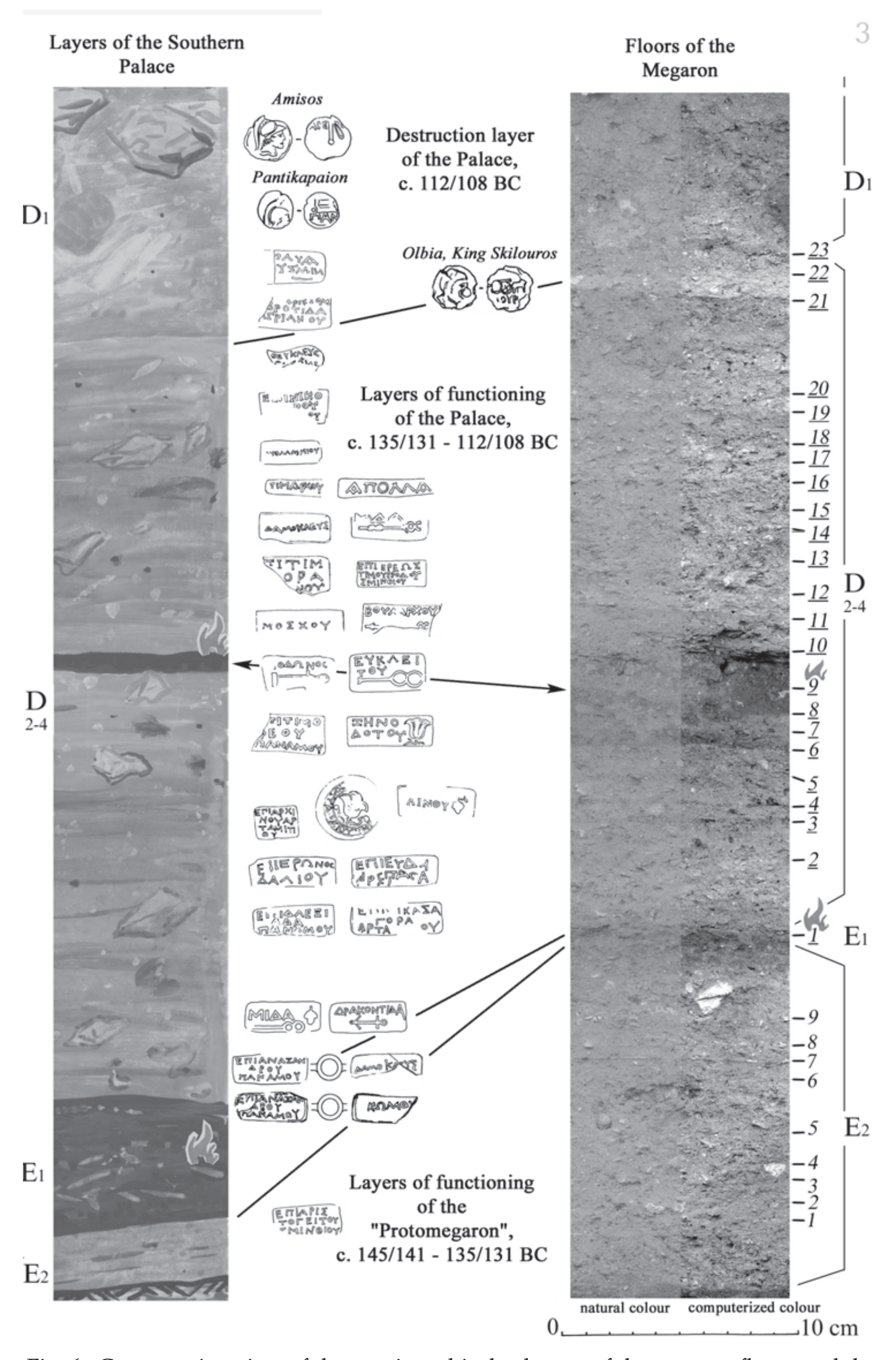


Fig. 6. Comparative view of the stratigraphical columns of the *megaron* floors and the layers of the Southern Palace.

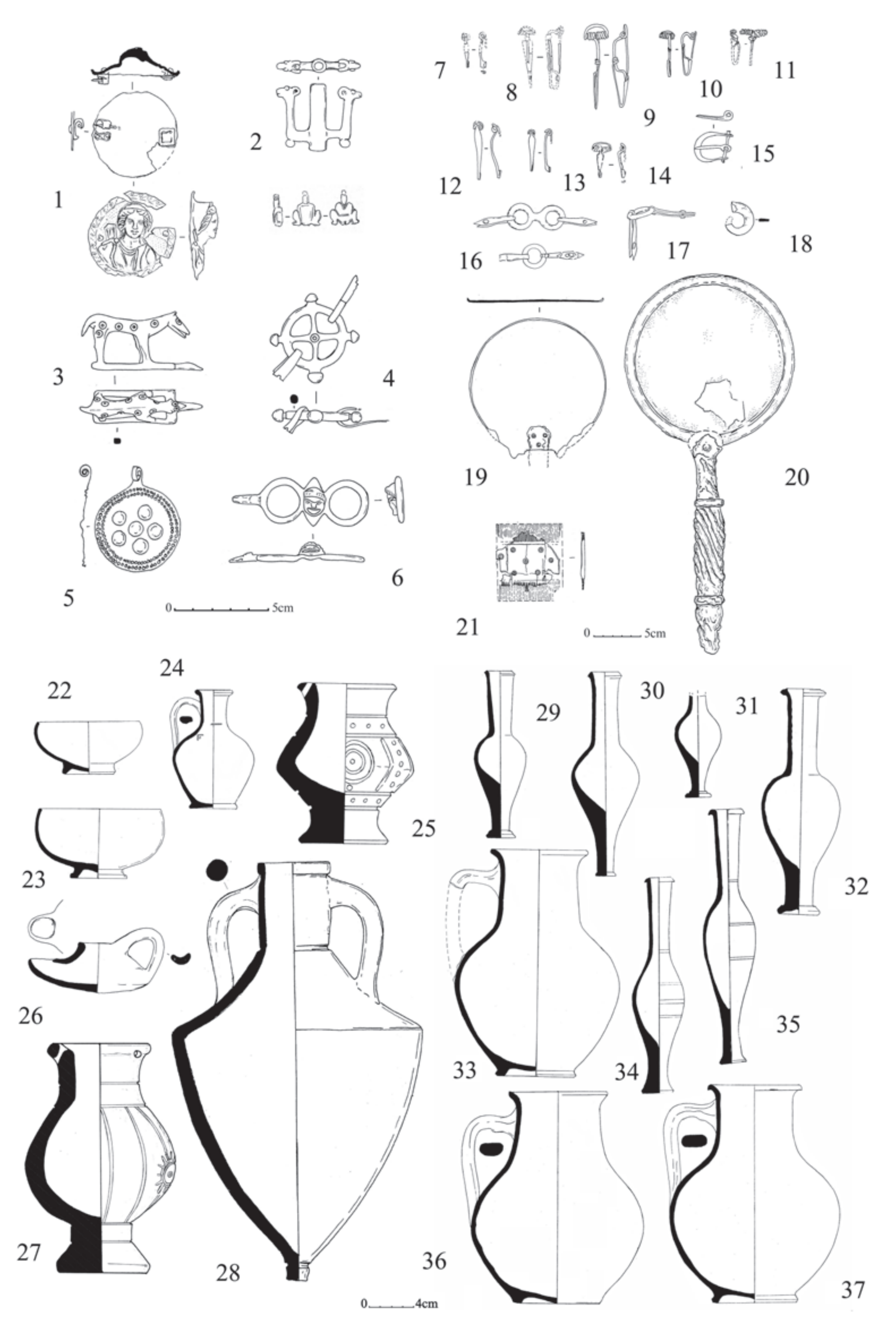


Fig. 7. Some of the finds from the Mausoleum of Skilouros.

Notes

1 Zajcev 2003.
2 Zaytsev 2002; 2002a.
3 Schulz 1953.
4 Grace 1952; 1953.
5 Zajcev 1994.
6 Finkielsztejn 2001.
7 Džarylgasinova & Krjukov (eds.) 1989, 126 (China), 217 (Japan).
8 Vinogradov 1987, 70, 74-75. Cf. Stolba (in this volume), note 75, and Callataÿ (in this volume).
9 Imhoof-Blumer 1912, 169-184.
10 Anochin 1986, 144, no. 183.
11 Frolova 1964.
12 Zajcev, 2001.
13 To this group belong the ash-hill below the Mausoleum of Skilouros and the ash-hill under the western part of the ash-hill no. 3.
14 Sections 6, 7, 7a-b-v.
15 Section 1, section E, chance finds on the territory of the Eastern necropolis.

The Royal Grave from the Time of Mithridates Eupator in the Crimea

Valentina I. Mordvinceva

The paper is devoted to the richest and most remarkable grave from Sarmatian times in the Crimea. The grave was discovered under the direction of the Soviet archaeologist Askold Ščepinskij in May 1974. The barrow was named Nogajčik, after the area near the excavation site (Fig. 1).

The complex has never previously been completely published. Jewellery and limited information about the burial rite were published by A. Simonenko in 1993.[1] Simonenko was not in possession of all the information about the barrow but he suggested dating it from the end of the 1st to the beginning of the 2nd century AD.[2]

Another publication of the complex was prepared by A. Ščepinskij and appeared in *Zeitschrift für Archäologie* in 1994.[3] The grave was presented in the context of the Sarmatian antiquities and dated to the end of the 2nd century BC – 1st century AD.[4] The publication included some features of the burial rite and some sketches of items not mentioned in the review made by Simonenko. It happened, however, that the article was insufficiently known in Russia and Ukraine, so the different date proposed by Ščepinskij was never discussed by other archaeologists.

Jewellery from the barrow was also treated in a special article by Michael Treister.[5] He attributed these ornaments to the Late Hellenistic period and was puzzled by the large gap between their date and the accepted date of the grave itself.

Being involved in working with documentation left by A. Ščepinsky, Ju. Zajcev and I have prepared a full publication of this monument.[6] The subject of the present paper is the chronology of the Nogajčik burial.

The burial rite of the grave is as follows. The inhumation utilised a wooden sarcophagus painted with white, blue and lilac colours. The sarcophagus was lined with a carpet or with a similar fabric mainly of a red colour. The bottom of the sarcophagus, particularly its central part was filled with pieces of incense. The top of the sarcophagus was covered by fabric embroidered with gold appliqué of various types.

The body in the sarcophagus was that of a woman aged between 35 and 40, 1.70 m in height. Her head was covered with pieces of gold appliqué, possibly a head-dress. A pair of ear-rings lay nearby (Fig. 2.3). A torque (Fig. 2.1) was placed around the neck. The ends of the torque, which bear images of



Fig. 1. Situation of the Nogajčik barrow.

animals, were at the back. Another necklace (Fig. 2.4) and a brooch-pin (Fig. 2.5) were placed on top of it. The chest of the deceased was ornamented with beads of stone, glass and gold. Two dresses of the dead woman were made of silk of mixed quality.

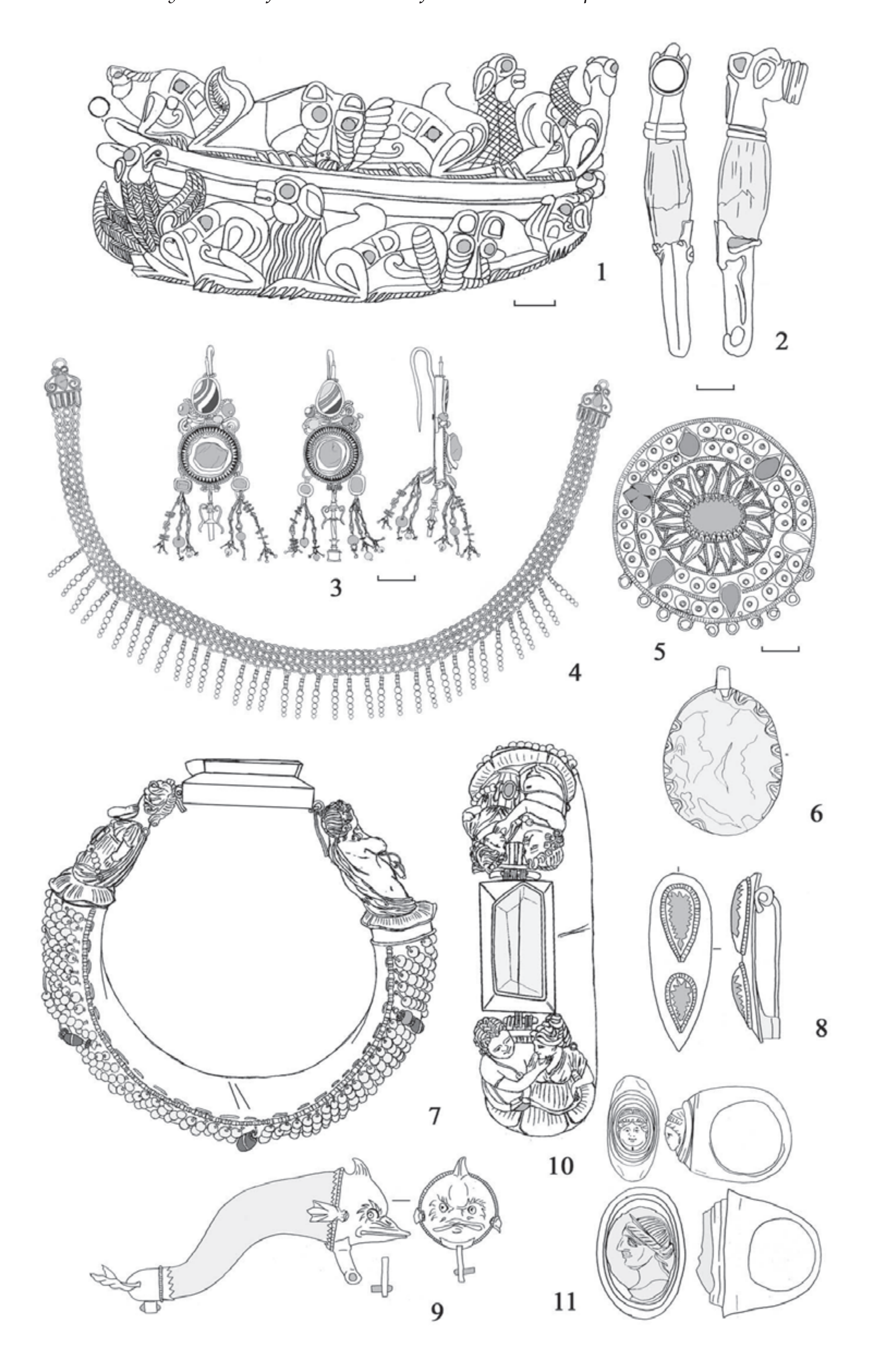
Both hands of the dead woman, ornamented with massive armlets (Fig. 2.7) were inserted into silver cups. The feet were ornamented with bracelets of gold wire and tiny beads of black glass and jet.

All other items were found to the right of the body. These are: a red-slip unguentarium (Fig. 3.2), a black-polished jug, a mirror-like object in a vessel of bone, and a silver gilded vessel (Fig. 3.3). A substantial number of items, mainly of gold, were found in the south-west corner of the sarcophagus placed inside a leather receptacle ornamented with bronze appliqués.

The burial goods could be divided into several groups.

Fig. 2. Jewellery from grave 18: 1) torque; 2) amulet-bead; 3) earring; 4) necklace; 5) brooch-pin; 6) pendant; 7) armlet; 8) brooch; 9) dolphin-brooch; 10-11) finger-rings.

→


1
2
3
4
5
6
7
8
9
10
11

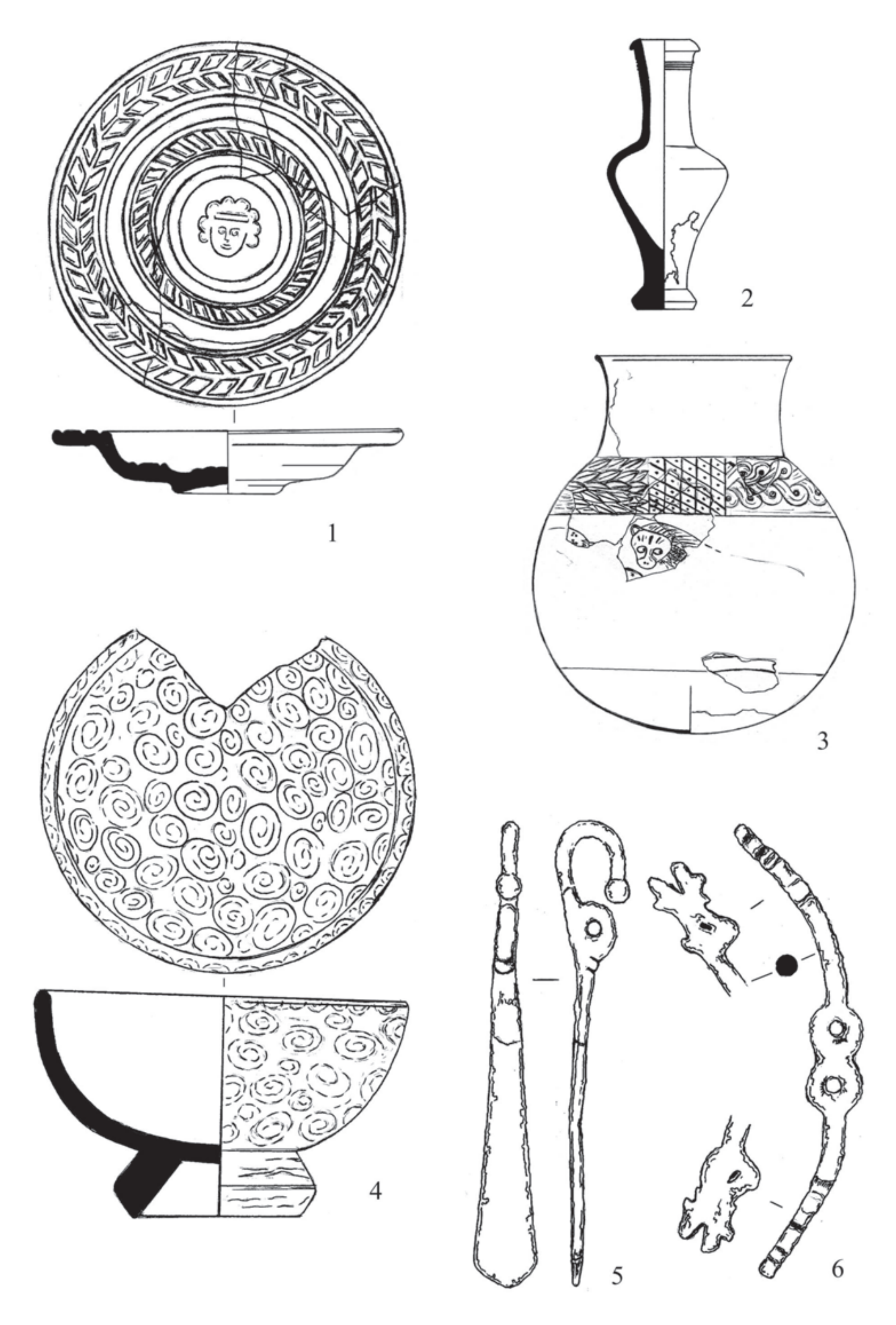


Fig. 3. Imported vessels and objects of horse harness: 1) plate of faience; 2) unguentarium; 3) silver cup; 4) millefiori cup; 5-6) objects of horse harness.

JEWELLERY (Fig. 2)

Bracelets (Fig. 2.7). These items decorated with images of Eros and Psyche could with justice be called the most impressive *objets d'art* found in the Barbarian Crimea. M. Treister has examined such aspects of the bracelets as: subject matter, application of sculpture figures, use of pearl-beads, and hinge construction.[7] However, some special important details of bracelets were never mentioned.

Figures of Eros and Psyche emerge from the open flower with four petals. The same type of rosettes decorates the handles of a silver cup from the same grave. This rare motif is characteristic of Late Hellenistic objects.[8]

Another expressive element of the bracelets is the use of small beads of agate and their imitation of black glass with crossed white bands mixed with green round beads and small rings of gold ornamented with granulation.[9] The use of such beads and rings is characteristic of the 2nd-1st cent. BC.

Earrings (Fig. 2.3). The earrings are of the well-known type of Hellenistic ornaments with central disk and pendants.[10] Under the upper inlay there is an important detail – a gold U-shaped band with tiny granulation, which is known as an "Isis-crown". Such a detail appears on articles of the 2nd century BC.[11] Small rosettes made by granulation and amphora-pendants with central beads are also quite distinctive.[12]

Special attention should also be paid to the small granulated rings made with green beads and agate inlays. Such characteristics prompt the suggestion that the earrings and bracelets were made as one set.

Finger-rings. Both finger-rings (Fig. 2.10-11) are of Hellenistic type in shape. Their frames can be dated to 3rd-2nd centuries BC.[13] One has gold inlay with the image of a female deity (Aphrodite, Demeter?) executed in relief (Fig. 2.10).

Another (Fig. 2.11) is inlayed with an intaglio cut in glass of reddish-brown colour, which was formerly thought to be cornelian.[14] Simonenko has mentioned that this intaglio "of Roman time" was set in an early frame.[15] This suggestion is unorthodox. Usually gems were valued and passed from generation to generation and only framed at a later date. The reverse situation is still unknown.

Gems can be dated by their subject, style, technique of cutting, shape and material of inlay. The Nogajčik intaglio bears the representation of a woman's head wearing a crown. Her hair-dress is shown with parallel locks combed back into a chignon. These features are characteristic of portraits of Arsinoe III.[16] Finger-rings with her image were very popular in northern Black Sea region. In necropoleis of Greek cities more then 10 examples have been found.[17] All them are dated from c. 200 BC to the first decades of the 2nd century BC. The bronze example with an image of this queen comes from the barbarian catacomb of the 2nd century BC in South-West Crimea (this material has not yet been published).

Since we discovered that the intaglio is not made from a "genuine" stone as was formerly believed, the discussion of its provenance and date should be reopened. Judging by its shape the inlay should be dated to the 3rd-2nd centuries BC. But according to D. Plantzos, stylistic features argue that the intaglio was made in the so-called "Coarse Style".[18] In Plantzos' view such objects were copied by casting from proper representations, the work then being completed with a cutting tool until the illusion of a cut stone was created. Therefore such representations look coarser then proper ones. These features are visible on the Nogajčik intaglio, which should therefore be dated after the gems made in the "Coarse Style" to the 2nd century BC. Consequently the intaglio and the frame of the finger-ring are synchronous.

Necklace (Fig. 2.4). This item was mistakenly treated by Simonenko as a diadem.[19] This example belongs to the well-known type of Hellenistic jewellery with a simple chain and elaborated ends. Exact parallels can be found among objects from the necropolis of Taranto and some other localities of the 3rd – early 2nd century BC.[20]

Brooch-pin (Fig. 2.5). This type of ornament was particularly popular in the North Caucasus (Kuban') region in Late Hellenistic times. There is a wide range of articles made in the same style and technique.[21] The distinctive features of the style are: S-shaped pieces of wire with a granule at the curl, tiny cones with granulation, ornamental rows composed of plain and curled wire.

Pendant with scaraboid (Fig. 2.6). The inlay is made of a local variety of chalcedony. The peculiarities of the frame could be indicative of the date for this item. These are: the combination of plain and curled wire, the zig-zag edge, and an absence of layout. Similar objects are dated to the second half of the 2nd century BC.[22]

Flagon-pendants. Tiny flagon-pendants (Fig. 4.1) were popular elements of Greek necklaces from the 6th century BC and onwards. Most of them are original in style. The small pendant from the Nogajčik barrow has more or less close analogies in jewellery of the 2nd century BC from Pelinnaion[23] and Genoa.[24]

Another flagon-pendant (Fig. 4.2) belongs to a special type with a cylindrical lid and two loops on both sides. K. Skalon identified five groups of such articles and dated them from the 1st to the 7th centuries AD.[25] For such typology she notes the tendency to make their proportions longer. According to this observation the pendant from Nogajčik is the most "stocky" and consequently the earliest in the series of such items. Its ornamentation, particularly the band of trefoils inlayed with blue, light-blue and green glass has direct analogies in ornaments of the 2nd century BC.[26]

Pyxis (Fig. 4.3). This perfume-vessel is stylistically close to the articles of so-called Pontic Graphical Style of Late Hellenistic times.[27] A distinctive rosette on the bottom, which was not ever mentioned in publications, also provides this date.

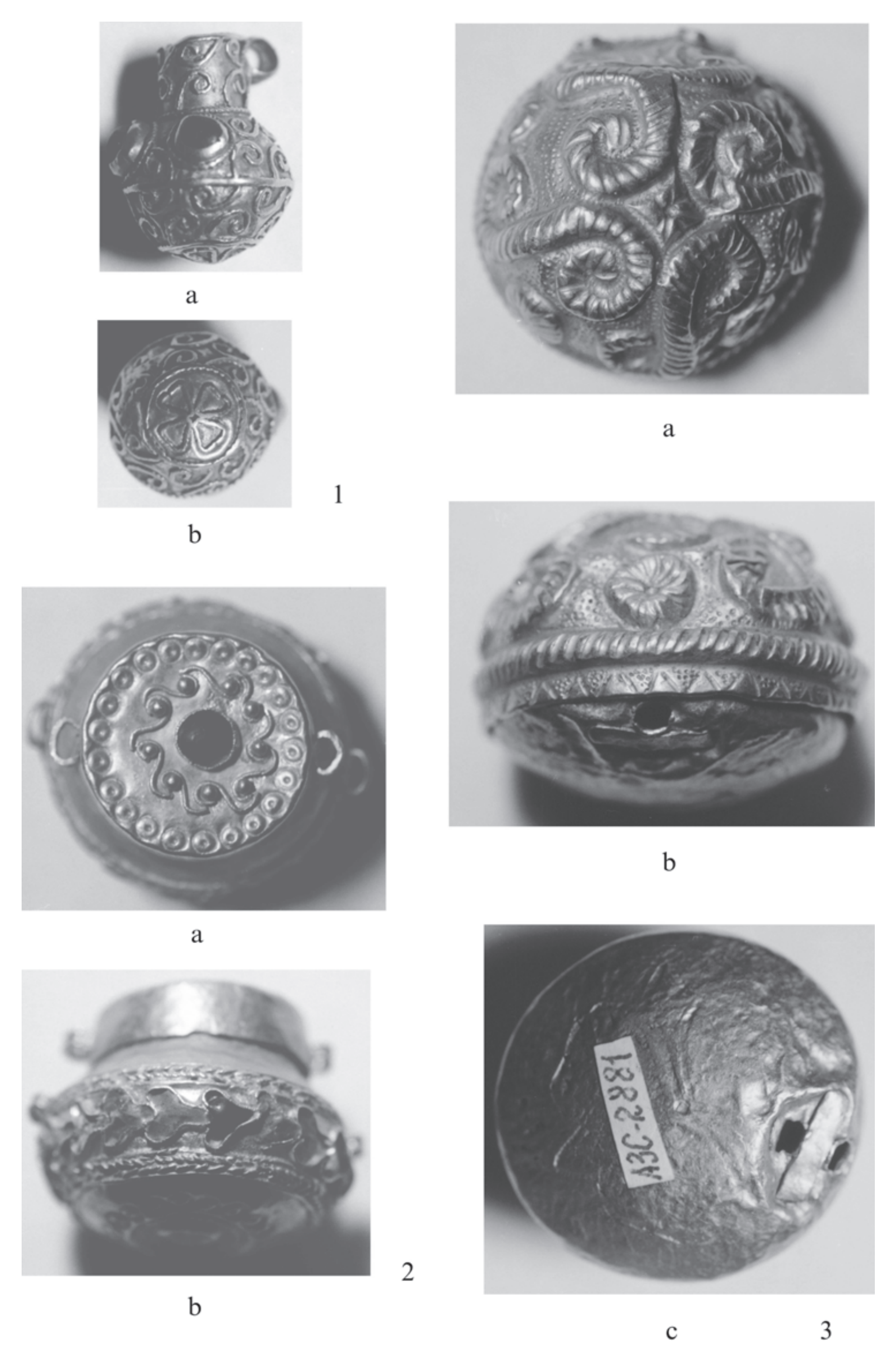


Fig. 4. Gold miniature vessels: 1) tiny flagon-pendant; 2) flagon-pendant; 3) pyxis.

Fibulae. In terms of its artistic value alone the brooch in the shape of a dolphin (Fig. 2.9) is unique. In construction the item belongs to the type of two-needled fibula. The earliest example of such a fibula is dated to the 3rd century BC.[28] The majority of two-needled fibulae in the Crimea and the North Caucasus are dated to the 2nd-1st centuries BC[29] but later examples are also known.

Another brooch has a construction traditionally dated to the 1st century AD.[30] But B. Michlin has drawn attention to the fact that such fibulae have been found in complexes of the 2nd-1st centuries BC.[31] Fibulae of this construction (with lamellate bow and solid receiver) were found, for instance, in lower levels of the Mausoleum of Scythian Neapolis dated from the end of the 2nd to the early 1st century BC.[32]

Beads. Most beads can only be dated very approximately. Four polychrome beads with longitudinal-wavy ornament, one of which is ornamented with gold ends, are dated mainly from the 3rd to the 1st centuries BC. Large roundish, ribbed beads made of different material are often found in the burials of the 2nd-1st centuries BC in the Mausoleum of Scythian Neapolis.[33]

Thus, according to the above analysis the jewellery from the Nogajčik barrow belongs to the Late Hellenistic period, mainly to the 2nd century BC.

ARTICLES MADE IN ANIMAL STYLE

Torque (Fig. 2.1). The type of torque, the peculiarities of technique and style and three-dimensional relief are features which could locate the torque chronologically.

The torque belongs to the multi-coil wire type with separately made ends. Ornaments of this type are richly represented in the Siberian collection of Peter the Great (where they date from the 5th to the 2nd century BC) and the Oxus Treasure.[34] Torques (and bracelets) of such construction were also found in the Sarmatian graves of the 2nd-1st centuries BC.[35] In later times (1st century BC – 1st century AD) they were replaced by the pipe type with a hinged clasp.

Images of animals were cut from a semi-product: traces of cutting can be seen everywhere. Torques in the Siberian collection show the same feature. These articles are also similar to the Nogajčik torque in the way they represent the tail of the last animal.

Amulet. This chalk bead set in a gold frame also has many analogies among objects of the Siberian collection.[36]

IMPORTED VESSELS

Kylix and cup. The shape and ornamentation identify this cup as Late Hellenistic.[37] The handles of the kylix are made in the shape of an open flower – which is also a Hellenistic feature. Both vessels could be dated to the 2nd – early 1st centuries BC.

Vessel with animal images (Fig. 3.3). This interesting example follows the well-known type of Scythian vessels of the 5th-4th centuries BC.[38] The latest example of this type was found in the Zelenskoj Barrow dated to the beginning of the 3rd century BC.[39] Its ornamentation is truly Hellenistic: a wreath with different types of bands, and the subject matter, which could be reconstructed as two pairs of animals.

"Millefiori" cup (Fig. 3.4). Vessels made in "millefiori" technique are very rare in the North Black Sea region. The technique was fairly popular in the period from the 1st century BC to the 1st century AD. The earliest examples are simple in shape and their ornamentation frequently consists of such elements as two-coloured, chaotic spirals. The Nogajčik cup bears a close resemblance to vessels from the Antikythera ship-wreck of the early 1st century BC.[40]

Plate of faience (Fig. 3.1). Parallels to this small plate made of greenish-blue faience have been found in Syria and dated to the first half of the 1st century BC.[41]

Ungutarium. No examples of any similarity to the Nogajčik vessel have been found in the North Black Sea region. It is known that from the middle of the 1st century BC fusiform ungventaria were replaced by ungventaria of a bulbous type.[42] Around the end of the 1st century BC and the beginning of the 1st century AD fusiform unguentaria disappeared. So this item could hardly be dated to any time after the middle of the 1st century BC.

OBJECTS OF LOCAL CULTURE

Bronze appliqués. These items are characteristic exclusively of the complexes of the 2nd-1st centuries BC.[43] They are well represented among the earliest burials in the Mausoleum of Scythian Neapolis and in the Sarmatian graves of the North Caucasus region.[44]

Silver ring with a cross. Such objects were found mainly in the Crimean graves of the 2nd -1st centuries BC.[45]

Black-polished jug. It belongs to the North and Central Caucasus pottery of the 3rd -1st centuries BC.[46]

"Mirror". This object could not be used as a mirror because of the absence of any plain surface. Perhaps it was a kind of ritual object. But its general appearance evinces a similarity to mirrors of the so-called Bactrian type. They were widespread from the Central Asia to the Dniester and the suggestion that they were produced at Bactrian centres[47] is incorrect. Their local

North Caucasus provenance is evident because of the multitude and variety of versions of this mirror-type found in the Sarmatian graves of this region.[48] Judging by such characteristics as the large disk and the low protuberance in the centre, the Nogajčik item could be dated to the end of the 2nd – early 1st centuries BC.

Spiral bracelets. These items were fairly popular in the Late Scythian culture in the 2nd and 1st centuries BC.

RARE OBJECTS

Some other objects are hard to date exactly. These are a plate made of faience, a vessel of alabaster, four gold pendants with images of lions and horses, silver spoons of simple shape, objects of jade, etc.

Thus, the majority of grave goods belong to the 2nd century BC. However, some objects, such as the ungventarium and millefiori cup would produce a later date – but not later than the middle of the 1st century BC.

One more circumstance induces us to accept the early 1st century BC as a reasonable date for the Nogajčik burial. Simultaneously with the grave there was a ritual pit dug in the centre of the kurgan mound. It was made at the same depth as the grave and afterwards both constructions were re-covered with a stratum of burned earth and a new mound. The ritual pit consisted of two horse heads laid on the bottom and two sets of horse trappings with a head-piece laid at the top of the pit directly beneath the burned earth (Fig. 3.5-6). Such sets are very specific artifacts. Usually they are dated to the 3rd – 2nd centuries BC, but in some cases to the early 1st century BC.[49]

Thus, with all the data summarized, the complex of the Nogajčik burial can be dated with confidence to the early 1st century BC, to the time of Mithridates Eupator, i.e. two centuries earlier than was formerly believed. For the Crimea and for the North Pontic region generally this complex is not only the richest grave, but, as regards its composition, it is almost unique. It is nearly the only burial, which, on the basis of its components can be compared to the so-called ritual hoards widespread in Eastern Europe in the 3rd – early 1st centuries BC.[50]

Notes

1 Simonenko 1993, 70-75.
2 Simonenko 1993, 117.
3 Ščepinskij 1994.
4 Ščepinskij 1994, 101.
5 Treister 1997.
6 Mordvintseva & Zaytsev (forthcoming).
7 Treister 1997, 123-133.
8 Barr-Sharrar 1994, Abb. 5-7.

9 Hackens & Lévy 1965, pl. XXI.
10 Rudolph 1995, 110.
11 Maksimova 1979, Art. 40; De Juliis (ed.) 1989, 166, 168, Cat. 80, 82-83; Deppert-Lippitz 1985, 261, figs. 194, 217, pls. 25 and 31; Davidson & Oliver 1984, 70.
12 Deppert-Lippitz 1985, fig. 194, pl. 31; Treister 1997, 136-137.
13 Boardman 1970, 213, 385.
14 Simonenko 1993, 73.
15 Simonenko 2001, 192.
16 Plantzos 1999, pl. 93.14.
17 Neverov 1976, 169, 172, pls. 2.9-10, 3.1-2; Treister 1982, 69; 1985, 126-139.
18 Plantzos 1999, 75, 78.
19 Simonenko 1993, 70.
20 De Juliis (ed.) 1989, 219-220, 452-453, no. 4; Hoffmann & Davidson 1965, no. 274, fig. 266; Ruxer & Kubczak 1972, pl. XVI, no. 2.
21 Marčenko1996, figs. 106.13, 112.2, 113.11; Raev, Simonenko & Treister 1991, 480-482, fig. 17.7.
22 Anfimov 1987, 171.
23 Ninou 1978, pl. 6.10.
24 Lo Porto 1975, 642, pl. 52.2.
25 Skalon 1959, 127-140.
26 Despoine 1996, Abb. 166.1.
27 Mordvinceva 2001, 37, Kat. 19, 43-44, 47-49, 64, 67-69, 72.
28 Škorpil 1916, 26, fig. 8.
29 Marčenko 1996, 31; Michlin 1980, 206-207.
30 Ambroz 1966, 25, 43, 45.
31 Michlin 1975, 190-191.
32 Michlin 1975, 191.
33 Pogrebova 1961, 169-171.
34 Dalton 1964, nos. 23, 116, 120, 135, 136 etc.; Rudenko 1962, pls. 1.1, 2.4, 3.4, 4.3, 4.5, 5.5, 8.1, 8.2, 8.7, 8.8, 9.6-8, 10.3-4, 15, 16, 17, 19.1-2, 23.23-24, 23.28-31, 23.34-37.
35 Šilov 1956, 44; Berchin 1959, 39; Sergackov 2000, 141.
36 Artamonov 1973, fig. 281.
37 Strong 1966, 108; Horedt 1973, 151.
38 Reeder (ed.) 1999, nos. 164, 165; *Scythian Art*…, nos.171-173, 188-192.
39 Škorpil 1916, 30, fig. 15.
40 Weinberg 1965, figs. 15-17; Weinberg & McClellan 1992, nos. 69-70.
41 Parlasca 1976, 145, figs. 13-15.
42 Thompson 1934, 347; Hempel 2000, 434, 436, fig. 10, Phase E3 und Phase F.
43 Pogrebova 1961, figs. 8.7, 10.V.
44 Marčenko 1996, figs. 60.12, 85.4, 97.12, 107.8, 109.7.
45 Daševskaja 1991, 36, pl. 62.6 and 11; Pogrebova 1961, fig. 11.2.
46 Abramova 1993, 40-41; Marčenko 1996, figs. 32-33.
47 Simonenko 2001a, 58.
48 Marčenko 1996, 21-23.
49 Simonenko 1982, 244; Dzis-Rajko & Suničuk 1984, 149.
50 Ščukin 1994, 97-98; Mordvintseva 1999, 146-147, fig. 8.

Bibliography

Abikulova, M.I. 1977. *Otčet o polevych archeologičeskich rabotach na territorii Chersonskoj oblasti v 1977 godu,* Archives of the Cherson regional museum.

Abikulova, M.I. 1979. *Otčet o provedennych archeologičeskich issledovanijach na territorii Chersonskoj oblasti v 1979 godu,* Archives of the Cherson regional museum, f. 3665/2, no. 13-16.

Abikulova, M.I. 1988. *Otčet o raskopkach Ljubimovskogo pozdneskifskogo gorodišča za 1988,* Archives of the Cherson regional museum, f. 3665/2, 39/125, no. 86-91.

Abikulova, M.I. 1989. *Otčet o raskopkach Ljubimovskogo pozdneskifskogo gorodišča za 1989,* Archives of the Cherson regional museum, f. 3665/2, no. 99-103.

Abikulova, M.I. 1990. *Otčet o raskopkach Ljubimovskogo pozdneskifskogo gorodišča za 1990,* Archives of the Cherson regional museum, f. 3665/2, 193/125, no. 109-113.

Abramov, A.P. 1993. Antičnye amfory. Periodizacija i chronologija, *Bosporskij sbornik* 3, 4-135.

Abramova, M.P. 1993. *Central'noe Predkavkaz'je v sarmatskoe vremja (III v. do n.e. – IV v. n.e.)*. Moskva.

Abramzon, M.G., N.A. Frolova & Ju.V. Gorlov. 2002. Kumatyrskij klad bronzovych monet IV-I vv. do n.e., *RossA* 3, 145-152.

Achmerov, R.B. 1949. Ob astinomnych klejmach ellinističeskogo Chersonesa, *VDI* 4, 99-123.

Adam-Veleni, P., P. Georgaki, E. Zographou, V. Kalavria, K. Boli, & G. Skiadaresis. 1996. Αρχαία αγορά Θεσσαλονίκης. Η στρωματογραφία και τα κινητά ευρήματα, *AErgoMak* 10.2, 501-531.

Akamatis, I.M. 1989. Πρόσθετα ανασκαφικά στοιχεία για τη χρονολόγηση της καταστροφής της Αγοράς της Πέλλας, *Egnatia* 1, 171-193.

Akamatis, I.M. 2000. Ενσφάγιστες λαβὲς αμφορέων απὸ τὴν αγορὰ τῆς Πέλλας. Ανασκαφὴ 1980-1987. Οι ομάδες Παρμενίσκου καὶ Ρόδου. Athens.

Alexandrescu, P. 1966. Necropola Tumulară. Săpături 1955–1961, in: E. Condurachi (ed.), *Histria* II. Bucarest 1966, 133–294.

Alexandrescu, P. 1978. *La ceramique d'epoque archaique et classique (VII-IV s.)* (Histria, 4). Bucarest.

Alekseev, A.Ju. 1986. Grečeskaja keramika iz Aleksandropol'skogo kurgana, *SoobErmit* 51, 35-38.

Alekseev, A.Ju. 2001. Grečeskie amfory iz Krasnokutskogo kurgana, *RosA* 4, 69-76.

Ambroz, A.K. 1966. *Fibuly juga Evropejskoj časti SSSR II v. do n.e – IV v. n.e.* (Svod archeologičeskich istočnikov, D 1-30). Moskva.

Anderson, J.K. 1954. Excavations on the Kofiná Ridge, Chios, *BSA* 49, 123-172.

Anderson-Stojanovič, V. 1993. A Well in the Rachi Settlement at Isthmia, *Hesperia* 62, 257-302.

Andreou, I. 1990. *Ελληνιστική κεραμική Λευκάδος*, in: *Β΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Πρακτικά, Ρόδος* 1989. Athens, 54-57.

Anfimov, N.V. 1987. *Drevnee zoloto Kubani*. Krasnodar.

Angermann, C. 1893. Beiträge zur griechischen Onomatologie, *Jahresbericht der Fürsten- und Landesschule St. Afra in Meissen vom Juli 1892 bis Juli 1893* (Progr. Meissen, 541). Meissen, 1-25.

Anochin, V.A. 1986. *Monetnoe delo Bospora*. Kiev.

Anochin, V.A.1989. *Monety antičnych gorodov Severo-Zapadnogo Pričernomor'ja.* Kiev.

Anokhin, V.A. 1980. *The coinage of Chersonesus IV century BC – XII century AD* (BAR International Series, 69). Oxford.

Archibald, Z., J.K. Davies, V. Gabrielsen, & G.J. Oliver (eds.) 2001. *Hellenistic Economies*. London-New York.

Ariel, D.T. 1990. Imported stamped amphora handles, in: D.T. Ariel (ed.), *Excavations at the City of David 1978-1985 directed by Yigal Shiloh*, II. *Imported stamped handles, coins, worked bone, and ivory* (Qedem, 30). Jerusalem. 13-98.

Ariel, D.T. 1999. Stamped amphora handles from Giv ʻat Yasaf (Tell er-Ras), *ʻAtiqot* 37, 24-30.

Ariel D.T. & G. Finkielsztejn. 1994. Stamped Amphora Handles, in: *Tel Anafa* I,1 (JRA, Suppl. 10). Ann Arbor 1994, 183-240.

Ariel, D.T. & G. Finkielsztejn. 2003. Amphora Stamps and Imported Amphoras, in: A. Kloner, *Maresha Excavations Final Report I. Subterranean Complexes.* Jerusalem 2003, 137-151.

Arribas, A., G.Trias, D. Cerdá, & J. de la Hoz. 1987. *El Barco de el Sec (Calvià, Mallorca). Estudio de los materials*. Mallorca.

Arsen'eva, T.M. 1977. *Nekropol' Tanaisa*. Moskva.

Arslan, M. & Ch. Lightfoot. 1999. *Greek Coin Hoards in Turkey. The Antalya Archaeological Museum and The C.S. Okray Collection with additional material from The Burdur, Fethiye and Sinop Museums.* Ankara.

Artamonov, M.I. 1973. *Sokrovišča sakov*. Moskva.

Ashton, R. 1992. The pseudo-Rhodian drachms of Mylasa, *NC* 152, 1-39, pls. 1-10.

Avram, A. 1996. *Histria. Les résultats des fouilles.* VIII. *Les timbres amphoriques.* 1. *Thasos*. Bucarest-Paris.

Avram, A. 1999a. *Inscriptions grecques et latines de Scythie Mineure.* 3. *Callatis et son territoire*. Bucarest-Paris.

Avram, A. 1999b. Matérial amphorique et non amphorique dans deux sites de la chôra d'Istros (Histria Pod et Cogealac), in: Garlan (ed.) 1999, 215-230.

Aylward, W. 1999. Studies in Hellenistic Ilion: The Houses in the Lower City, *StTroica* 9, 160-186.

Babelon, E., Th. Reinach & W.H. Waddington 1904, *Recueil général des monnaies grecques d'Asie Mineure*, I. Paris.

Badal'janc, Ju.S. 1978. Rodosskie amfornye klejma iz Nimfeja (raskopki 1970—1974 gg.), *SovA* 4, 207-217.

Badal'janc, Ju.S. 1980. Opyt chronologičeskoj klassifikacii imen rodosskich fabrikantov, *NumEpigr* 13, 3-12.

Badal'janc, Ju.S. 1987. Ekonomičeskie svjazi ellinističeskogo Rodosa. Avtoreferat dissertacii doktora istoričeskich nauk. Moskva.

Badal'janc, Ju.S. 1989. Voprosy chronologičeskoj klassifikacii rodosskich keramičeskich klejm, *Klio* 71, 226-240.

Badal'janc, Ju.S. 2000. Ellinističeskij Rodos (keramičeskie klejma IOSPE III kak istoričeskii istočnik. Analiz, problemy, rešenija). Moskva.

Badal'janc, Ju.S. 1999. La Rhodos hellénistique et le Nord de la Mer Noire (les relations économiques d'après l'épigraphie céramique), in: Garlan (ed.) 1999, 247-253.

Ballesteros Pastor, L. 1996. *Mitrídates Eupátor, rey del Ponto*. Granada.

Barag, D. 1992-3. New evidence on the foreign policy of John Hyrcanus I, *INJ* 12, 1-12.

Bărbulescu, M., L. Buzoianu & N. Cheluță-Georgescu. 1986. Importuri amforice la Albeşti (jud. Constanța): Thasos, *Pontica* 19, 61-74.

Bărbulescu, M., L. Buzoianu & N. Cheluță-Georgescu. 1987. Tipuri de amfore elenistice descoperite în aşezarea greco-autohtonă de la Albeşti (jud. Constanța), *Pontica* 20, 79-106.

Bărbulescu, M., L. Buzoianu & N. Cheluță-Georgescu. 1990. Pentru un catalog complet al importurilor amforice la Albeşti (jud. Constanța), *Pontica* 23, 49-79.

Bărbulescu, M., L. Buzoianu & N. Cheluță-Georgescu. 2001. Ştampile amforice recent descoperite la Albeşti (jud. Constanța), *Pontica* 33-34, 219-252.

Barr-Sharrar, B. 1994. The Bronze Lamps, in: *Das Wrack. Der antike Schiffsfund von Mahdia*. I. Köln, 639-653.

Baumann, V.H. 1975. Considerații asupra importului de amfore greceşti în nordul Dobrogei, *Peuce* 4, 29-60.

Beazley, J.D. 1940-45. Miniature Panathenaics, *BSA* 41, 10-21.

Bechtel, F. 1917. *Die historischen Personennamen des Griechischen bis zur Keiserzeit.* Halle.

Belin de Ballu, E. 1972. *Olbia. Cité antique du littoral nord de la Mer Noire*. Leiden.

Bellinger, A.R. 1961. *Troy. The Coins* (Suppl. Mon., 2). Princeton.

Belova, L.N. 1958. Monety iz raskopok Tiritaki, Mirmekija i Illurata v 1946-1953gg., *MatIsslA* 85, 330-351.

Berchin, I.P. 1959. Sarmatskoe pogrebenie u s. Salomatina, *SoobErmit* 15, 37-41.

Bereti, V. 1992. Amfora transporti te zbuluara ne vendbanimin e Treportit, *Iliria* 22, 129-147.

Berlin, A. 1999. Studies in Hellenistic Ilion: The Lower City. Stratified Assemblages and Chronology, *StTroica* 9, 73-157.

Berlin, A.M. & K.M. Lynch. 2002. Going Greek: Atticizing pottery in the Achaemenid world, *StTroica* 12, 167-178.

Bilde, P. 1996. Mouldmade Bowls, Centre and Peripheries in the Hellenistic World, in: P. Bilde, T. Engberg-Pedersen, L. Hannestad, J. Zahle & K. Randsborg (eds.), *Centre and Periphery in the Hellenistic World* (Studies in Hellenistic Civilization, 4). Aarhus 1996, 192-209.

Blondé, Fr. 1985. Un Remblai Thasien du IV siècle avant notre ere. A. La Ceramique, *BCH* 109, 281-344.

Blondé, Fr. 1989. La Ceramique, *BCH* 113, 481-545.

Blondé, F., A. Muller & D. Mulliez. 1991. Le comblement d'un puits public à Thasos. 5. Le materiel amphorique, *BCH* 115, 213-242.

Boardman, J. 1970. *Greek Gems and Finger Rings. Early Bronze Age to Late Classical.* London.

Boardman, J. 1989. *Athenian Red Figure Vases. The Classical Period.* London.

Bodjans'kij, O.V. 1961. *Zvit za archeologični rozvidkovi doslidy za 1961 rik na beregach Kachovs'kogo morja ta Nadporižž'ja,* Archives of the Institute of Archaeology (Ukrainian National Academy of Science), no. 1961/59.

Boehringer, Ch. 1972. *Zur Chronologie mittelhellenistischer Münzserien 220-160 v. Chr.* (AMGS, 5). Berlin.

Boehringer, Ch. 1975. Hellenistischer Münzschatz aus Trapezunt, *SNR* 54, 37-64.

Bogoljubova, O.Ju. 1988. Keramičeskie klejma poselenija Bol'šoj Kastel', in: *Problemy antičnoj kul'tury. Tezisy dokladov naučnoj konferencii 19-24 sentjabrja 1988 g*. III. Simferopol', 235.

Borisova, V.V. 1957. *Otčet o raskopkach gončarnych masterskich Chersonesa Tavričeskogo v 1957 g.* Archives of the National Preserve "Tauric Chersonesos", file 733/1.

Borisova, V.V. 1958. Gončarnye masterskie Chersonesa (po materialam raskopok 1955-1957 gg.), *SovA* 4, 144-153.

Borisova, V.V. 1974. Keramičeskie klejma Chersonesa i klassifikacija chersonesskich amfor, *NumEpigr* 11, 99-124.

Bosworth, A.B. & P.V. Wheatley. 1998. The Origins of the Pontic House, *JHS* 188, 155-164.

Bouzek, J. 1990. *Studies of Greek Pottery in the Black Sea Area*. Prague.

Börker, C. & J. Burow. 1998. *Die hellenistischen Amphorenstempel aus Pergamon* (Pergamenische Forschungen, 11). Berlin.

Brašinskij, I.B. 1965. Keramičeskie klejma Geraklei Pontijskoj, *NumEpigr* 5, 10-30.

Brašinskij, I.B. 1980. *Grečeskij keramičeskij import na Nižnem Donu v V-III vv. do n.e.* Leningrad.

Brašinskij, I.B. 1984a. *Metody issledovanija antičnoj torgovli (na primere Severnogo Pričernomor'ja)*. Leningrad.

Brašinskij, I.B. 1984b. Voprosy chronologii keramičeskich klejm i tipologičeskogo razvitija amfor Geraklei Pontijskoj, *NumEpigr* 14, 3-22.

Brujako, I.V. 1998. O verchnej date grečeskogo Nikonija, in: *Drevnee Pričernomor'e. IV čtenija pamjati professora P.O. Karyškovskogo.* Odessa, 16-20.

Brujako I.V. 1999. O sobytijach III v. do n.e. v Severo-Zapadnom Pričernomor'e (četyre koncepcii krizisa), *VDI* 3, 76-91.

Brun, J.-P. 1999. *Laudatissimum fuit antiquitus in Delo insula*. La maison IB du Quartier du Stade et la production des parfumes à Délos, *BCH* 123, 87-155.

Brun, J.-P. & M. Brunet. 1997. Une huilerie du premiere siècle avant J.-C. dans le Quartier du Théâtre à Délos, *BCH* 121, 573-615.

Bruneau, Ph. 1968. Contribution à l'histoire urbaine de Délos à l'époque hellénistique et à l'époque impériale, *BCH* 92, 633-709.

Bruneau, P. 1970. La Vaisselle, in: P. Bruneau et al. (eds.), *L'îlot de la Maison des Comédiens* (Exploration archéologique de Délos, 27). Paris, 239-262.

Bruneau, Ph. 1980. Le dromos et le temple C du Serapieion C de Délos, *BCH* 104, 161-188.

Bujskich, A.V. & V.M. Zubar. 2003. Review of L. Hannestad, V.F. Stolba, A.N. Ščeglov (eds.) Panskoye I. Vol. 1. The Monumental Building U6. Aarhus 2002, *ArcheologijaKiev* 4, 140-146.

Bujskich, S.B. 1988. *Otčet o rabotach Severo-Pričernomorskoj ekspedicii IA AN USSR v 1988 godu,* Archives of the Institute of Archaeology (Ukrainian National Academy of Science), no. 1988/8.

Bujskich, S.B. 1989. *Otčet o rabotach Severo-Pričernomorskoj ekspedicii IA AN USSR v 1989 godu,* Archives of the Institute of Archaeology (Ukrainian National Academy of Science), no. 1989/9.

Bujskich, S.B. 1990. *Otčet o rabotach Severo-Pričernomorskoj ekspedicii IA AN USSR v 1990 godu,* Archives of the Institute of Archaeology (Ukrainian National Academy of Science), no. 1990.

Bujskich, S.B. 1993. Eschary Glubokoj Pristani, in: Ochotnikov (ed.) 1993, 80-82.

Bujskich, S.B. & A.S. Ostroverchov. 1994. Kabanij klyk s zoomorfnym izobraženiem iz Glubokoj Pristani, in: Toščev (ed.) 1994, 34-38.

Burstein, S.M. 1980. The Aftermath of the Peace of Apamea. Rome and the Pontic War, *AmJAncHist* 5, 1-12.

Buzoianu, L. 1980. Ştampile rhodiene de la Edificiul roman cu mozaic, *Pontica* 13, 119-139.
Buzoianu, L. 1981. Consideraţii asupra ştampilelor sinopeene de la Edificiul roman cu mozaic, *Pontica* 14, 133-151.
Buzoianu, L. 1982. Importul amforelor thasiene la Tomis în perioada elenistică, *Pontica* 15, 137-151.
Buzoianu, L. 1984. Despre începuturile importului de amfore ştampilate în cetăţile greceşti Tomis şi Callatis, *Pontica* 17, 51-59.
Buzoianu, L. 1991. Tipuri de amfore de sec. VI-IV a. Chr. descoperite la Tomis, *Pontica* 24, 75-96.
Buzoianu, L. 1992. Importurile amforice la Tomis în perioada elenistică, *Pontica* 25, 99-165.
Büsing H. 1982. Metrologische Beiträge, *JdI* 97, 1-45.
Bylkova, V.P. 1992. Zakrytyj kompleks amfornoj tary s poselenija "Usad'ba Litvinenko" na Dneprovskom limane, *Drevnosti Stepnogo Pričernomor'ja i Kryma* 3, 130-136.
Bylkova, V.P. 1994. Do pytannja pro schidnu mežu sil's'koj okrugy Ol'vii v pizn'oklasyčnyj-rann'oellinistyčnyj čas, *ArcheologijaKiev* 3, 19-31.
Bylkova, V.P. 1996a. Excavations on the Eastern boundary of the Chora of Olbia Pontica, *EchosCl* 15, 99-118.
Bylkova, V.P. 1996b. Poselenie "Usad'ba Litvinenko" na Dneprovskom limane, *Materialy po archeologii, istorii i etnografii Tavrii* 5, 5-11, 456-460.
Cahill, N. 2002. *Household and City Organization at Olynthus*. New Haven-London.
Callaghan, P.J. 1981. On the Date of the Great Altar of Zeus at Pergamon, *BICS* 28, 115-121.
Callataÿ, F. (de) 1994. *Les tétradrachmes d'Orodès II et de Phraate IV. Étude du rythme de leur production monétaire à la lumière d'une grande trouvaille* (Studia Iranica, 14). Paris.
Callataÿ, F. (de) 1997. *L'histoire des guerres mithridatiques vue par les monnaies*, Louvain-la-Neuve.
Callataÿ, F. (de) 2002. La chronology des bronzes de Mithridate Eupator: revision et consequences sur la datation des monnayages et des sites du Bosphore cimmérien, in: *Cités grecques, sociétés indigenes et empires mondiaux dans la region nord-pontique: origins et développement d'un koinè politique, économique et culturelle (VII*e *s. a.C. – III*e *s. p.C.). Préactes et résumés des communications, Bordeaux, 14-16 novembre 2002*. Bordeaux, 145-180.
Callataÿ, F. (de) (forthcoming). La choronologie des bronzes de Mithridate et le problème de la datation des sites du Bosphore cimmérien, in: *Cités grecques, sociétés indigènes et empires mondiaux dans la région nord-pontique: origines et développement d'une koinè politique, économique et culturelle (VIIe s. a.C. – IIIe s. p.C.*). *Proceedings of the Bordeaux Congress: 14-16 November 2002*, Bordeaux, c. 35 p. (to appear in 2004).

Camp, J. McK. II. 1996. The Form of the Pnyx, in: Forsén & Stanton (eds.) 1996, 41-46.
Campernon, C. 1994. *La céramique attique à figures rouges autour de 400 avant J.-C. Les principales formes, evolution, et production*. Paris.
Canali De Rossi, F. 1999. Dedica di Mitridate a Giove Capitolino, *Epigraphica* 61, 37-46.
Canarache, V. 1957. *Importul amforelor stampilate la Istria*. Bucureşti.
Cankardas Senol, G. 2001. Metropolis'den hellenistik döneme ait bir grup amphora mühürü, *Olba* 4, 101-115.
Carr, K.E. 1992. Appendix 2: Hellenistic and Roman pottery and Small Finds, in: Coleman 1992, 282-286.
Cawkwell, G.L. 1963. Eubulus, *JHS* 83, 47-67.
Cecchladze, G.R. 1992. Proizvodstvo amfornoj tary v Kolchide, in: Kac & Monachov (eds.) 1992, 90-100.
Ceka, N. 1986. Amfora antik nga Margëlliçi, *Iliria* 16, 71-98.
Cerdá, D. 1987. Las anforas de la nave de el Sec, in: Arribas et al. 1987, 401-499.
Cerdá, D. 1987. La ceramica atica de barniz negro, in: Arribas et al. 1987, 197-385.
Cerdá, D. 1989. El Sec: La ceramica atica de barniz negro y las anforas, in: Rouillard & Villanueva-Puig (eds.) 1989, 51-92.
Chronique des fouilles en 1957: Macédoine occidentale et centrale, *BCH* 82 1958, 756-768.
Chrysostomou, A. 1996-97. Στοιχεία καθημερινής και λαϊκής λατρείας απο την Πέλλα των ελληνιστικών χρόνων. Η σωστική ανασκαφή στο οικόπεδο Γεωργίου Παππά, *ADelt* Α΄ 51-52, 197-230.
Chrzanovski L. & D. Zhuravlev. 1998. *Lamps from Chersonesos in the State Historical Museum, Moscow* (Studia archaeologica, 94). Roma.
Clinkenbeard, B. 1986. Lesbian and Thasian Wine Amphoras, Question Concerning Collaboration, in: Empereur & Garlan (eds.) 1986, 353-362.
Cohen, S.J.D. 1999. *The Beginnings of Jewishness: Boundaries, Varieties, Uncertainties*. Berkeley.
Coja, M. 1986. Les centres de production amphorique identifiés à Istros pontique, in: Empereur & Garlan (eds.) 1986, 417-450.
Coleman, J.E. 1992. Excavations at Halai 1990-1991, *Hesperia* 62, 265-289.
Coleman, J.E., P.S. Wren, & K.M. Quinn. 1999. Halai. The 1992-1994 Field Seasons, *Hesperia* 68, 285-341.
Conovici, N. 1989. Probleme ale cronologie amphorelor ştampilate sinopeene. Ştampilele din grupa a IV-A (B.N. Grakov), *StCercIstorV* 40, 29-44.
Conovici, N. 1997. Problèmes de la chronologie des timbres sinopéens, *Pontica* 30, 117-154.
Conovici, N. 1998. *Histria. Les résultats des fouilles.* VIII. *Les timbres amphoriques.* 2. *Sinope.* Bucarest-Paris.

Conovici, N. 1999. Un astynome sinopéen mal connu: Dèmètrios I, in: Garlan (ed.) 1999, 49-70.
Conovici N., A. Avram & Gh. Poenaru Bordea. 1989. Nouveaux timbres amphoriques sinopéens de Callatis, *Dacia* 33, 111-123.
Conovici, N., A. Avram & G. Poenaru Bordea. 1992. Etude quantitative sur les timbres amphoriques sinopéens de Callatis, in: Kac & Monachov (eds.) 1992, 229-253.
Conovici, N. & M. Irimia. 1991. Timbres amphoriques et autres inscriptions ceramiques découverts à Satu Nou (comm. d'Oltina, dép. de Constantza), *Dacia* 35, 139-175.
Cook, J. 1965. Old Smyrna. Forth-century Black Glaze, *BSA* 60, 143-153.
Corbett, P. 1949. Attic pottery of the later fifth century from the Athenian Agora, *Hesperia* 18, 298–351.
Corbett, P.E. 1951. Review of *Olynthus* XIII, *Gnomon* 23, 61.
Corbett, P. 1955. Palmette stamps from an Attic black-glaze workshop, *Hesperia* 24, 172-186.
Corsten, Th. 1985. *Die Inschriften von Kios* (IGSK, 29). Bonn.
Coulson, W.D.E. 1987. Chatby Reconsidered, *JEA* 73, 234-236.
Curti, F. 2001. *La bottega del pittore di Melaeagro.* Rome.
Černjakov, I.T. (ed.) 1984. *Ranniy železnyj vek Severo-Zapadnogo Pričernomor'ja*. Kiev.
Dalton, O.M. 1964. *The Treasure of the Oxus with the other examples of Early Orient Metal-work*. 3rd ed. London.
Daševskaja, O.D. 1991. *Pozdnie skify v Krymu* (Svod archeologičeskich istočnikov, D 1-7). Moskva.
Daševskaja, O.D. & A.S. Golencov. 1999. Zapadno-Donuzlavskoe gorodišče v Krymu, in: A.I. Meljukova, M.G. Moškova & V.A. Bašilov (eds.), *Evrazijskie drevnosti. 100 let B.N. Grakovu: archivnye materialy, publikacii, stat'i*. Moskva 1999, 161-177.
Davidson, G. & D. Thompson. 1943. *Small Objects from the Pnyx* (Hesperia Suppl., 7). Princeton.
Davidson, P.F. & A. Oliver. 1984. *Ancient Greek and Roman Gold Jewelry in the Brooklyn Museum*. Brooklyn.
De Juliis, M. (ed.) 1989. *Gli ori di Taranto in Età Ellenistica*. Milano.
de Luca, G. & W. Radt. 1999. *Sondagen im Fundament des Grossen Altars* (Pergamenische Forschungen, 12). Berlin-New York.
Debidour, M. 1979. Réflexions sur les timbres amphoriques thasiens, in: *Thasiaca* (BCH Suppl., 5). Paris. 269-314.
Debidour, M. 1986. En classant les timbres thasiens, in: Empereur & Garlan (eds.) 1986, 311-334.
Debidour M., 1992. Emblemy i ich varianty na fasosskich klejmach "pozdnego" tipa, in: Kac & Monachov (eds.) 1992, 111-137.
Debidour, M. 1998. Review of Avram 1996, *Topoi* 8, 397-406.

Debidour, M. 1999. *Kleitos*, un magistrat thasien attesté sur les rives de la mer Noire, in: Garlan (ed.) 1999, 81-89.
Degrassi, A. 1951/52. Le dediche de popoli e re asiatici al popolo Romano e a Giove Capitolino, *BullCom* 74, 19-47.
Deppert-Lippitz, B. 1985. *Griechisches Goldschmuck*. Mainz.
Descat, R. 1995. Marché et tribut: l'approvisionnement des Dix-Mille, *Pallas* 43, 99-108.
Despoine, A. 1996. *Ελληνική τέχνη. Αρχαία χρυσά κοσμήματα*. Athens.
Desy, Ph. 1988. Il dibattito, in: *Magna Grecia, Epiro, e Macedonia* (AttiT, 24), 413-416.
Dimitrov, D.P., M. Čičikova & A. Balkanska. 1984. *Sevtopolis I. Bit i kultura.* Sofia.
Dimitrov, K. & V. Penčev. 1984. *Sevtopolis II. Antični i srednovekovni moneti*. Sofia.
Dinsmoor, W.B. 1961. The basis of Greek temple design. Asia Minor, Greece, Italy, in: *Atti del Settimo congresso internazionale di archeologia classica, Roma - Napoli 1958*, 1. Roma 1961, 355-368.
Doğer, E. 1994. Rodoslu Çomlekçi Hieroteles, *Arkeoloji Dergisi* 2, 195-218.
Doğer, E. 1996. Hisarönü / Çubuk Rodos Amphora Atölyeleri Kazisi, in: *XVIII Kazi Sonuclari Toplantisi* 2, 235-254.
Doğer, E., N. Tuna & I. Gezgin. 1994. Hisarönü -Čubučak Sondaj Kazilari (Onrapor), *Arkeoloji Dergisi* 2, 185-193.
Doğer E. & A.K. Şenol. 1996. Rhodos Peraiasi'nda Iki Yeni Amphora Atölyesi, *Arkeoloji Dergisi* 4, 59-73.
Doulgéri-Intzessiloglou, A. & Y. Garlan. 1990. Vin et amphores de Péparéthos et d'Ikos, *BCH* 114, 361-389.
Drougu, S. 1991. *Hellenistic Pottery from Macedonia.* Thesssaloniki.
Dugas, C. & J.D. Beazley. 1952. *Les vases attiques à figures rouges* (Exploration Archéologique de Délos, 21). Paris.
Dupont, P. 1982. Amphores commerciales archaiques de la Grece de l'Est, *PP* 37, 193-209.
Dupont, P. 1999. La circulation amphorique en mer Noire à l'époque archaïque. Spécificité et problèmes, in: Garlan (ed.) 1999, 143-161.
Dusenbery, E. 1998. *Samothrace. The Necropolis. II Catalogues of Objects by Categories.* Princeton.
Dürrbach, F. & A. Jardé. 1905. Fouilles de Délos, *BCH* 29, 169-196.
Dzis-Rajko, G.A. & E.F. Suničuk. 1984. Kompleks predmetov skifskogo vremeni iz sela Velikoploskogo, in: Černjakov (ed.) 1984, 148-161.
Džarylgasinova R.Š. & M.V. Krjukov (eds.) 1989. *Kalendarnye obyčai i obrjady narodov Vostočnoj Azii. Godovoj cikl.* Moskva.
Ebert, M. 1913. Ausgrabungen auf dem Gute Maritzyn, Gouv. Cherson (Süd-Russland), *PZ* 5, 1-80.
Edwards, G.R. 1963. Koroni: The Hellenistic Pottery, *Hesperia* 32, 109-111.
Edwards, G.R. 1975. *Corinthian Hellenistic Pottery* (Corinth, 7.3). Princeton.

Efremov, N.V. 1992. K istorii torgovych svjazej Knida s Severnym Pričernomor'em, in: Kac & Monachov (eds.) 1992, 254-265.

Ehrhardt, N. 1987. Die politischen Beziehungen zwischen den griechischen Schwarzmeergründungen und ihren Mutterstädten. Ein Beitrag zur Bedeutung von Kolonialverhältnissen in Griechenland, in: *Rapports et communications. 9e Congrès international d'épigraphie grecque et latine, Sofia 1987*. Trinovi, 78-117.

Eiseman, C.J. & B.S. Ridgway. 1987. *The Porticello Shipwreck: A Mediterranean Merchant Vessel of 415-385 BC.* College Station.

Empereur, J.-Y. 1982. Les anses d'amphores timbrées et les amphores. Aspects quantitatifs, *BCH* 106, 219-233.

Empereur, J.-Y. 1989. Producteurs d'amphores dans les ateliers de Reşadiye (péninsule de Datça), in: *VI Araştirma Sonuçlari Toplantisi*. Ankara 1989, 159-163.

Empereur, J.-Y. 1990. Η χρονολόγηση των ροδιακών αμφορέων στην ελληνιστική περίοδο, in *Β΄Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Πρακτικά, Ρόδος 1989*. Athens, 199–209.

Empereur, J.-Y. & Y. Garlan (eds.) 1986. *Recherches sur les amphores grecques* (BCH Suppl., 13). Paris.

Empereur, J.-Y. & Y.Garlan. 1992. Grečeskie amfornye masterskie, in: Kac & Monachov (eds.) 1992, 8-31.

Empereur, J.-Y. & Y. Garlan. 1997. Bulletin Archéologique. Amphores et timbres amphoriques (1992-1996), *REG* 110, 161-209.

Empereur, J.-Y. & A. Hesnard. 1987. Les amphores hellénistiques du monde Égéen, in: P. Lévêque and J.-P. Morel (eds.), *Céramiques hellénistiques et romaines*, 2 (Centre de recherches d'histoire ancienne, 70). Paris, 10-71.

Empereur, J.-Y., A. Hesse & N. Tuna. 1999. Les ateliers d'amphores de Datça, péninsule de Cnide, in: Garlan (ed.) 1999, 105-115.

Empereur, J.-Y. & M. Picon. 1986. À la recherche des fours d'amphores, in: Empereur & Garlan (eds.) 1986, 103-126.

Empereur, J.-Y. & M. Picon. 1987. The Production of Aegean Amphoras: Field and Laboratory Studies, in: *New Aspects of Archaeological Sciences in Greece*. Athens 1987, 33-38.

Empereur, J.-Y. & N. Tuna. 1988. Zènon de Caunos et l'épave de Serçe Limani, *BCH* 112, 341-357.

Empereur, J.-Y. & N. Tuna. 1989. Hierotélès, potier rhodien de la Perée, *BCH* 113, 277-299.

Etienne, R. & J.-P. Braun. 1986. *Le sanctuaire de Poseidon et d'Amphitrite* (Ténos, 1). Paris.

Farmakovskij, B.V. 1915. *Ol'vija.* Moskva.

Fedoseev, N.F. 1992. Itogi i perspektivy izučenija sinopskich keramičeskich klejm, in: Kac & Monachov (eds.) 1992, 147-163.

Fedoseev N.F. 1993a. Sinopskie keramičeskie klejma kak istočnik po političeskoj i ekonomičeskoj istorii Ponta (Abstract of a PhD Thesis). Moskva.

Fedoseev, N.F. 1993b. Utočnennyj spisok magistratov, kontrolirovavšich keramičeskoe proizvodstvo v Sinope, *VDI* 2, 85-104.

Fedoseev, N.F. 1994. Chronologija sinopskich magistratskich klejm, in: Toščev (ed.) 1994, 188-190.

Fedoseev, N.F. 1999. Classification des timbres astynomiques de Sinope, in: Garlan (ed.) 1999, 27-48.

Finkielsztejn, G. 1993. *Amphores et timbres d'amphores importées en Palestine à l'époque hellénistique: études de chronologie et d'histoire* (Thèse de doctorat de l'Université Paris I Panthéon-Sorbonne).

Finkielsztejn, G. 1995. Chronologie basse des timbres amphoriques rhodiens et évaluation des exportations d'amphores, *Acta Hyporborea* 6, 279-296.

Finkielsztejn, G. 1998a. More evidence on John Hyrcanus I's conquests: Lead weights and amphora stamps, *Bulletin of the Anglo Israel Archaeological Society* 16, 33-63.

Finkielsztejn, G. 1998b. Timbres amphoriques du Levant d'époque hellenistique, *Transeuphratene* 15, 83-121.

Finkielsztejn, G. 1999. Hellenistic Jerusalem: The evidence of the Rhodian amphora stamps, in: A. Faust & E. Baruch (eds.), *New studies on Jerusalem, proceedings of the fifth conference, December 23*rd *1999*. Ramat Gan 1999, 21-36.

Finkielsztejn, G. 2000a. Amphores importées au Levant Sud à l'époque hellénistique, in: *Ε΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Χρονολογικά προβλήματα κλειστά σύνολα εργαστήρια, Χανιά 1997.* Athens, 207–220.

Finkielsztejn, G. 2000b. Chronologie et diffusion des dernieres amphoras timbrees rhodiennes: etude preliminaire, in: S. Zabehlicky-Scheffenegger (ed.), *Rei cretariae romanae fautorum acta* 36. Abingdon, 407-415.

Finkielsztejn, G. 2001. *Chronologie détaillée et révisée des eponyms amphoriques rhodiens, de 270 à 108 av. J.-C. environ: Premier bilan* (BAR International Series, 990). Oxford.

Finkielsztejn, G. 2002. Du bon usage des amphores hellenistiques en contextes archeologiques, in: *Céramiques hellénistiques et romaines, TMO* 35. Lyon 2002, 227-233.

Forsén, B. 1996. The Sanctuary of Zeus Hypsistos and the Date of Construction of Pnyx III, in: Forsén & Stanton (eds.) 1996, 47-55.

Forsén B. & G. Stanton (eds.) 1996. *The Pnyx in the History of Athens. Proceedings of an International Colloquium Organised by the Finnish Institute at Athens, 7-9 October, 1994*. Helsinki.

Fränkel, E. 1935. Namenwesen, *RE* 16, 1611-1670.

Frolova, N.A. 1964. Monety skifskogo carja Skilura, *SovA* 1, 44-55.

Frolova, N.A. & S. Ireland. 1999. Two Hoards of Bosporan Coins of the First Century BC from the Ancient Settlement of Poljanka (Kerch), *Hermathena* 166, 31-43.

Frolova, N. & S. Ireland. 2003. *The Coinage of the Bosporan Kingdom: From the First Century BC to the Middle of the First Century AD* (BAR, S1102). Oxford.

Frolova, N.A. & D.B. Šelov. 1965. Monety iz raskopok Kep 1958-1963, *NumSfrag* 2, 168-193.

Gajdukevič, V.F. 1941. Archeologičeskoe izučenie Mirmekija, *MatIsslA* 4, 96-109.

Garlan Y. 1966. Contribution à une étude stratigraphique de l'enceinte thasienne, *BCH* 90, 586-652.

Garlan, Y. 1979. Koukos. Données nouvelles pour une nouvelle interpretation des timbres amphoriques thasiens, in: *Thasiaca* (BCH Suppl., 5), 213-268.

Garlan Y. 1982. Les timbres amphoriques thasiens. Bilan et perspectives de recherche, in: *Annales. Economies, Societes, Civilisations*. Paris, 837-846.

Garlan, Y. 1985. Un remblai thasien du IVe siècle av. n.e., *BCH* 109, 727-746.

Garlan, Y. 1986. Quelques nouveaux ateliers amphoriques à Thasos, in: Empereur & Garlan (eds.) 1986, 201-276.

Garlan, Y. 1989. Le comblement d'un puits public à Thasos 2. Les timbres céramique, *BCH* 113, 477-480.

Garlan, Y. 1990a. À propos de la chronologie des timbres amphoriques Thasiens, in: Ch. Koukouli-Chrisanthaki & O. Picard (eds.), *Μνήμη Δ. Λαζαρίδης. Πόλις και χώρα στην αρχαία Μακεδονία και Θράκη.* Thessaloniki 1990, 479-483.

Garlan Y. 1990b. Remarques sur les timbres amphoriques de Sinope, *CRAI* 1990, 490-507.

Garlan, Y. 1993. Nouvelles remarques sur la chronologie des timbres amphoriques thasiens, *JSav* 2, 149-181.

Garlan, Y. 1999a. *Les timbres amphoriques de Thasos.* 1. *Timbres protothasiens et thasiens anciens* (Études Thasiennes, 18). Athens-Paris.

Garlan Y. 1999b. Reflexions sur le commerce des amphores grecques en mer Noire, in: Garlan (ed.) 1999, 131-142.

Garlan, Y. (ed.) 1999. *Production et commerce des amphores anciennes en Mer Noire. Colloque international organisé à Istanbul, 25-28 mai 1994*. Aix-en-Provence.

Garlan, Y. 2000. *Amphores et timbres amphoriques grecs. Entre érudition et idéologie* (Memoires de l'Academie des inscriptions et belles-lettres, 21). Paris.

Garlan Y. & A. Doulgeri-Intzessiloglu. 1990. Vin et amphores de Peparethos et d'Ikos, *BCH* 114, 361-373.

Garlan Y. & I. Tatlican. 1997. Fouilles d'ateliers amphoriques à Zeytinlik (Sinope) en 1994 et 1995, *Anatolia antiqua* 5, 307-316.

Garlan Y. & I. Tatlican. 1998. Fouilles d'ateliers amphoriques à Nisiköy et à Zeytinlik (Sinop) en 1996 et 1997, *Anatolia antiqua* 6, 407-422.

Gassner, V. 1997. *Das Südtor der Tetragonos-Agora: Keramik und Kleinfunde* (FiE, XIII 1/1). Vienna.

Gavriljuk, N.A. & M.I. Abikulova. 1991. *Pozdneskifskie pamjatniki Nižnego Podneprov'ja (novye materialy). Preprint.* Kiev.

Gavriljuk, N. & V.P. Bylkova, S.N. Kravčenko. 1992. *Skifskie poselenija IV v. do n.e. v Stepnom Podneprov'e. Preprint.* Kiev.

Gavriljuk, N.A. 1999. *Istorija ekonomiki Stepnoj Skifii VI-III vv. do n.e.* Kiev.

Geyer, A. (ed.) 1996. *Der Jenaer Maler: Eine Töpferwerkstatt im klassischen Athen. Fragmente attischer Trinkschalen der Sammlung Antiker Kleinkunst der Friedrich-Schiller-Universität Jena.* Wiesbaden.

Gibbins, D. 2001. Shipwrecks and Hellenistic trade, in: Archibald et al. (eds.) 2001, 273-312.

Gilevič, A.M. 1987. Chersones i Severo-Zapadnyj Krym po numizmatičeskim dannym, in: *Kratkie tezisy dokladov i soobščenij naučnoj konferencii "Novoe v sovetskoj numizmatike i numizmatičeskom muzeevedenii" (k 200-letiju Otdela numizmatiki Ermitaža)*. Leningrad, 54-55.

Gilevič, A.M. 1989. Moneta Larissy iz poselenija Panskoe I, in: A.V. Gudkova et al. (eds.), *Drevnee Pričernomor'e (čtenija pamjati professora Petra Osipoviča Karyškovskogo). Tezisy dokladov konferencii.* Odessa 1989, 19-20.

Gilevič, A.M. 1999. Chronologija i topografija kladov i kollektivnych nachodok chersonesskich monet IV-II vv. do n.e., *Archeologičeskie vesti* 6, 346-373.

Gilevič, A.M. 2002. Coins, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 245-251.

Gilevič, A.M., V.F. Stolba & A.N. Ščeglov. 1991. Nachodka monety Istrii v Severo-Zapadnom Krymu, in: *Drevnee Pričernomor'e. II čtenija pamjati professora P.O. Karyškovskogo.* Odessa, 22-23.

Gill, D.W.J. 1987. The date of the Porticello shipwreck: some observations on the Attic Bolsals, *IJNA* 16, 31-33.

Goldstein, J.A. 1989. The Hasmonean revolt and the Hasmonean dynasty, in: W.D. Davies & L. Finkelstein (eds.), *The Cambridge History of Judaism*. Cambridge, 292-351.

Golenko, K.V. & A.N. Ščeglov. 1971. Tri pozdneellinističeskie tetradrachmy iz Severo-Zapadnogo Kryma, *VDI* 1, 41-47.

Golubcova, E.S. (ed.) 1990. *Ellinizm: ekonomika, politika, kul'tura*. Moskva.

Grace, V.R. 1946. Early Thasian Stamped Amphoras, *AJA* 50, 31-38.

Grace, V. 1949. Standard Pottery Containers of the Ancient Greek World, *Hesperia Suppl.* 8, 175-189.

Grace V.R. 1952. Timbres amphoriques trouvés à Délos, *BCH* 76, 514-540.

Grace, V.R. 1953. The Eponyms Named on Rhodian Amphora Stamps, *Hesperia* 22, 116-128.

Grace, V.R. 1956. Stamped Wine Jar Fragments, in: Talcott, Philippaki, Edwards & Grace 1956, 113-189.

Grace, V.R. 1963. Notes on the Amphoras from the Koroni Peninsula, *Hesperia* 32, 319-334.

Grace, V.R. 1965. The Commercial Amphoras from the Antikythera Shipwreck, *TAPS* 55, 5-17.

Grace, V.R. 1974. Revisions in Early Hellenistic Chronology, *AM* 89, 193-200.
Grace, V. 1979. *Amphoras and the Ancient Wine Trade.* Athens-Princeton, N. J.
Grace, V.R. 1985. The Middle Stoa Dated by Amphora Stamps, *Hesperia* 54, 1-54.
Grace, V.R. 1986. Some amphoras from a Hellenistic wreck, in: Empereur & Garlan (eds.) 1986, 551-565.
Grace, V.R. & M. Savvatianou-Petropoulakou. 1970. Les timbres amphoriques grecs, in: P. Bruneau (ed.), *L'îlot de la maison des comédiens* (Exploration archéologique de Délos, 27). Paris 1970, 277-382.
Grakov, B.N. 1929. *Drevne-grečeskie keramičeskie klejma s imenami astinomov*. Moskva. [The title page reads 1928, the date of printing is 1929]
Grakov, B.N. 1939a. *Klejmenaja keramičeskaja tara epochi ellinizma kak istočnik dlja istorii proizvodstva i torgovli*, Archives of the Institute of Archaeology, Russian Academy of Sciences, P-2, file 538.
Grakov, B.N. 1939b. Materialy po istorii Skifii v grečeskich nadpisjach Balkanskogo poluostrova i Maloj Azii, *VDI* 3, 231-315.
Grakov, B.N. 1954. *Kamenskoe gorodišče na Dnepre* (MatIsslA, 36). Moskva.
Gramatopol, M. & Gh. Poenaru Bordea. 1968. Amfore ştampilate din Tomis, *StCercIstorV* 19, 41-61.
Gramatopol, M. & Gh. Poenaru Bordea. 1969. Amphora Stamps from Callatis and South Dobrudja, *Dacia* 13, 127-282.
Grandjean, Y. 1992. Contribution à l'etablisement d'une typologie des amphores thasiennes, le matérial amphorique du quartier de la porte du Silène, *BCH* 116, 541-584.
Gruen, E.S. 1984. *The Hellenistic World and the Coming of Rome*. Berkeley.
Gruen, E.S. 1998. *Heritage and Hellenism. The Reinvention of Jewish Tradition*. Berkeley.
Guldager Bilde, P., J.M. Højte & V.F. Stolba (eds.) 2003. *The cauldron of Ariantas. Studies presented to A.N. Ščeglov on occasion of his 70*th *birthday.* Aarhus.
Hackens, T. 1969. Les monnaies, in: P. Bruneau et al. (eds.), *L'ilôt de la Maison des Comédiens* (Exploration archéologique de Délos, 27). Paris, 387-419.
Hackens, T. & E. Lévy. 1965. Trésor Hellénistique trouvé a Délos on 1964. *BCH* 89, 503-566.
Hadjidaki, E. 1997. The classical shipwreck of Alonnesos, in: S. Swiny, R.C. Hohlfelder, & H.W. Swiny (eds.), Res Maritimae. *Cyprus and the eastern Mediterranean from prehistory to late antiquity* (CAARI Monograph series, 1). Atlanta 1997, 125-134.
Hadjidaki, E. 1996. Underwater excavations of a late fifth century merchant ship at Alonnesos, Greece: the 1991-1993 seasons, *BCH* 120, 561-593.
Hannestad, L., V.F. Stolba & H. Hastrup. 2002. Black-glazed, Red-figure, and Grey Ware Pottery, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 127-149.

Hannestad, L., V.F. Stolba & A.N. Ščeglov. 2002. Conclusion, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 280-282.

Hannestad, L., V.F. Stolba & A.N. Ščeglov (eds.) 2002. *Panskoye I.* Vol. 1. *The Monumental Building U6*. Aarhus.

Harris, J.M. 1941. Coins found at Corinth, *Hesperia* 10, 143-162.

Hatzidakis, P. 1997. Κτίριο νότια του «Ιερού του Προμαχώνος». Μία taberna vinaria στη Δήλο, in: *Δ΄Επιστημονική συνάντηση για την ελληνιστική κεραμική*. Athens, 291-307.

Hayes, J. 1991. *The Hellenistic and Roman Pottery* (Paphos, 3). Nicosia.

Hayes, J.W. 1995. Two kraters 'After the Antique' from the Fimbrian destruction in Troia, *StTroica* 5, 177-184.

Hayes, J.W. & C. Harlaut. 2001. Ptolemaic and Roman pottery deposits from Alexandria, *Études alexandrines* 6, 99-133.

Heinen, H. 1972. *Untersuchungen zur hellenistische Geschichte des 3. Jahrhunderts v. Chr. Zur Geschichte der Zeit des Ptolemaios Keraunos und zum chremonideischen Krieg* (Historia Einzelschriften, 20). Wiesbaden.

Hempel, K.G. 2000. Keramik des 2. und 1. Jhs. v.Chr. aus der Nekropole von Tarent. in: *Ε′ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Χρονολογικά προβλήματα, κλειστά σύνολα, εργαστήρια. Πρακτικά*. Athens, 427-443.

Hoffmann, H. & P.F. Davidson. 1965. *Greek Gold. Jewelry from the Time of Alexander.* Mainz.

Horedt, K. 1973. Die Dakischen Silberfunde, *Dacia* 17, 127-167.

Howland, R. 1958. *Greek lamps and their survivals* (The Athenian Agora, 4). Princeton.

Imhoof-Blumer, F. 1912. Die Kupferprägung des mithradatischen Reiches und andere Münzen des Pontus und Paphlagoniens, *NZ* 5, 169-192.

Irimia, M 1973. Descoperiri noi privind populația autohtonă a Dobrogei şi legăturile ei cu coloniile greceşti (sec.V-I i.e.n.), *Pontica* 6, 7-71.

Irimia, M. & N. Conovici. 1989. Aşezarea getică fortificată de la Satu Nou «Valea lui Voicu»(com. Oltina, jud. Constanța). Raport preliminar, *Thraco-Dacica* 10, 115-154.

Irimia, M. & N. Conovici. 1990. Săpăturile arheologice în aşezarea getică fortificată de la Satu Nou, com. Oltina, jud. Constanța-campania 1989, *Pontica* 23, 81-96.

Ivanov, T. 1963. La céramique antique de la nécropole d'Apollonia, in: I. Venedikov et al. (eds.), *Apollonia. Les fouilles dans la nécropole d'Apollonia en 1947-1949.* Sofia, 65-273.

Ivantchik, A. 2002. Une nouvelle proxénie d'Olbia et les relations des cités nord-pontiques avec le royaume scythe de Skilouros, in: *Cités grecques, sociétés indigènes et empires mondiaux dans la région nord-pontique: origines et développement d'une* koinè *politique, économique et culturelle (VIIe s. a.C. – IIIe s. p.C. Préactes et résumés des communications.* Bordeaux, 123-139.

Jefremov, N. 1995. *Die Amphorenstempel des hellenistischen Knidos* (Quellen und Forschungen zur antiken Welt, 19). München.

Jones, J., A. Graham, & L. Sackett. 1973. An Attic Country House below the Cave of Pan at Vary, *BSA* 68, 355-452.

Jones, J., L. Sackett, & A. Graham. 1962. The Dema House in Attika, *BSA* 57, 75-114.

Jöhrens, G. 1998. *Amphorenstempel im Nationalmuseum von Athen zu den von H.G. Lolling aufgenommenen „Unedierten Henkelinschriften." Mit einem Anhang: Die Amphorenstempel in der Sammlung der Abteilung Athen des Deutschen Archäologischen Instituts*. Athens.

Jöhrens, G. 1999a. Kerameikos: Griechische Amphorenstempel spätklassischer und hellenistischer Zeit, *AM* 114, 157-170.

Jöhrens, G. 1999b. Griechische Amphorenstempel hellenistischer Zeit der Grabungen 1974-1994, in: F. Rakob (ed.), *Karthago III*. Mainz 1999, 239-258.

Kac, V.I. 1985. Tipologija i chronologičeskaja klassifikacija chersonesskich magistratskich klejm, *VDI* 1, 87-113.

Kac, V.I. 1994. *Keramičeskie klejma Chersonesa Tavričeskogo. Katalog-opredelitel'*. Saratov.

Kac, V.I. 1996. Pričiny perechoda ot "rannich" k "pozdnim" ottiskam v praktike fasosskogo klejmenija, in: *Drevnee Pričernomor'e. III čtenija pamjati professora P.O. Karyškovskogo. Tezisy dokladov jubilejnoj konferencii 12-14 marta 1996 goda.* Odessa 1996, 51-53.

Kac, V.I. 1997a. Chronologija klejm Geraklei Pontijskoj (sostojanie i perspektivy izučenija), in: Ochotnikov et al. (eds.) 1997, 212-217.

Kac, V.I. 1997b. Kollekcija amfornych klejm Geraklei Pontijskoj iz Chersonesa, in: *Chersones v antičnom mire. Istoriko-archeologičeskij aspekt. Tezisy dokladov meždunarodnoj naučnoj konferencii*. Sevastopol' 1997, 44-46.

Kac, V.I. 2001. K voprosu o vremeni suščestvovanija bosporskoj kolonii na Elizavetovskom gorodišče, in: V.Ju. Zuev, M.Ju. Vachtina, E.Ja. Rogov & V.A. Chršanovskij (eds.), *Bosporskij fenomen: kolonizacija regiona, formirovanie polisov, obrazovanie gosudarstva. Materialy meždunarodnoj naučnoj konferencii*, 1. St Peterburg 2001, 85-91.

Kac, V.I. 2002a. Keramičeskie klejma ranneellinističeskogo vremeni iz Tanaisa, in: V.P. Kopylov (ed.), *Meždunarodnye otnošenija v bassejne Černogo morja v drevnosti i srednie veka.* Rostov-na-Donu 2002, 98-102.

Kac, V.I. 2002b. Kompleks rodosskoj klejmenoj keramičeskoj tary s Gruševskogo gorodišča, in: V.Ju. Zuev et al. (eds.), *Bosporskij fenomen: Pogrebal'nye pamjatniki i svjatilišča.* St Peterburg 2002, 248-256.

Kac, V.I. 2003a. A new chronology for the ceramic stamps of Herakleia Pontike, in: Guldager Bilde, Højte & Stolba (eds.) 2003, 261-278.

Kac, V.I. 2003b. Revizija chronologii rannich keramičeskich klejm Rodosa, *AMA* 11, 153-163.

Kac V.I. & N.F. Fedoseev. 1986. Keramičeskie klejma “Bosporskogo emporija” na Elizavetovskom gorodišče, *AMA* 6, 85-105.

Kac, V.I. & S.Ju. Monachov (eds.) 1992. *Antičnye amfory. Problemy razvitija remesla i torgovli v antičnom mire.* Saratov.

Kac, V.I., S.Yu. Monachov, V.F. Stolba & A.N. Ščeglov. 2002. Tiles and Ceramic Containers, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 101-126.

Kallet-Marx, R.M. 1995. *Hegemony to Empire. The development of the Roman* imperium *in the East from 148 to 62 BC.* Berkeley.

Kantzia, Ch. 1994.΄Ενα κεραμικὸ εργαστήριο αμφορέων τοῦ πρώτου μισοῦ τοῦ 4ου αι. π.Ξ. στὴν Κῶ, in: *Γ΄ επιστημονική συνάντηση για την ελληνιστική κεραμικη*, 1991. Athens, 323-354.

Karasev, A.N. 1964. Monumental’nye pamjatniki ol’vijskogo temenosa, in: V.F. Gajdukevič (ed.), *Ol’vija. Temenos i agora*. Moskva-Leningrad, 27-130.

Karjaka, O.V. 1997. Amfory Kamjans’kogo gorodišča, *ArcheologijaKiev* 4, 110-118.

Karyškovskij, P.O. 1965. Denežnoe obraščenie Ol’vii v konce II i v pervoj polovine I v. do n. e., *NumEpigr* 5, 62-74.

Karyškovskij, P.O. 1978. Ol’vijskie eponimy, *VDI 2,* 82-88.

Karyškovskij, P.O. 1988. *Monety O’lvii. Očerk denežnogo obraščenija Severo-Zapadnogo Pričernomor’ja v antičnuju epochu*. Kiev.

Kasher, A. 1990. *Jews and Hellenistic cities in Eretz-Israel. Relations of the Jews in Eretz-Israel with the Hellenistic cities during the second Temple period (332 BCE – 70 CE).* Tübingen.

Kasparov, A.K. 2002. Osseous Remains, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 332-333.

Kasparova, K.V. 1984. Zarubineckaja kul’tura v chronologičeskoj sisteme kul’tur epochi latena, *ASbor* 25, 108-117.

Kašaev S.V. 2002. Commonware, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 150-179.

Katzev, M.L. 1969. The Kyrenia shipwreck, *Expedition* 11.2, 55-59.

Katzev, M.L. 1970a. A Greek ship is raised, *Expedition* 12.4, 6-14.

Katzev, M.L. 1970b. Resurrecting the Oldest Known Greek Ship, *National Geographic Magazine* 137, 840-857.

Kloner, A. 2001. The economy of Hellenistic Maresha. Inferences based on the city plan and archaeological finds, in: Archibald et al. (eds.) 2001, 103-131.

Knigge, U. 1980. Kerameikos: Tätigkeitsbericht 1978, *AA,* 256-265.

Knigge, U. & W. Kovacsovics. 1981. Kerameikos: Tätigkeitsbericht 1979, *AA*, 385-396.

Knipovič, T.N. 1949a. K voprosu o torgovych snoščenijach antičnych kolonij Severnogo Pričernomor’ja v epochu ellinizma, *SovA* 11, 271–284.

Knipovič, T.N. 1949b. Ol’vijskaja expedicija, *KSIIMK* 27, 21-30.

Knipovič, T.N. 1955. Chudožestvennaja keramika v gorodach Severnogo Pričernomor'ja, in: *Antičnye goroda Severnogo Pričernomor'ja* 1. Moskva 1955, 356-391.

Kobylina, M.M. 1951. Pozdnie bosporskie peliki, *MatIsslA* 19, 136-170.

Koehler, C.G. 1978. *Corinthian A and B Transport Amphoras* (PhD dissertation, Princeton University).

Koehler, C. 1982. Amphoras on amphoras, *Hesperia* 51, 284-292.

Koehler, C.G. & Ph.M. Wallace Matheson (forthcoming). Knidian Amphora Chronology, Pergamon to Corinth, in: J. Eiring & J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean. International colloquium at the Danish Institute in Athens, 26-29 September 2002*.

Koehler, C.G. & M.B. Wallace. 1987. Appendix: The transport amphoras: Description and capacities, in: Pulak & Townsend 1987, 49-57.

Kohl, M. 2001. La genèse du portique d'Attale II. Origine et sens des singularités d'un bâtiment construit dans le cadre de la nouvelle organization de l'Agora d'Athènes au IIe siècle av. J.-C., in: J.-Y. Marc & J.-C. Moretti (eds.), *Constructions publiques et programmes édilitaires en Grèce* (BCH Suppl., 39). Paris 2001, 237-266.

Kolesnikov, A.B. 1984. Antičnye sel'skie usad'by u Evpatorijskogo Majaka, *Vestnik Moskovskogo Universiteta. Ser. 8. Istorija* 4, 76-86.

Kolesnikov, A.B. 1985a. *Grečeskie sel'skochozjajstvennye usad'by v rajone g. Evpatorii* (Abstract of the PhD thesis). Moskva.

Kolesnikov, A.B. 1985b. Keramičeskie klejma iz raskopok usadeb u Evpatorijskogo majaka, *VDI* 2, 67-93.

Kolesnikov, A.B. & I.V. Jacenko. 1999. Le territoire agricole de Chersonèsos Taurique dans la region de Kerkinitis, in: M. Brunet (ed.), *Territoires des cités grecques. Actes de la table ronde internationale organisée par l'Ecole Française d'Athènes, 31 octobre – 3 novembre 1991* (BCH Suppl., 34), 289-321.

Korpusova V.N. 1983. *Nekropol' Zolotoe.* Kiev.

Korovina A.K. (ed.) 1983. *Katalog vystavki "Kul'tura i iskusstvo Pričernomor'ja v antičnuju epochu".* Moskva.

Koscjuško-Valjužinič, K.K. 1900. *O prodolženii archeologičeskich razyskanij v Chersonese.* Archives of the Institute of the History of Material Culture, Russian Academy of Sciences. St Petersburg, f. 1, delo 2/1900.

Koscjuško-Valjužinič, K.K. 1902. Izvlečenie iz otčeta o raskopkach v Chersonese Tavričeskom v 1900 g., *IAK* 2, 1-39.

Kossatz, A.-U. 1985. Zur hellenistischen Keramik, in: M. Korfmann, Besik Tepe Vorbericht über die Ergebnisse der Grabung von 1983, *AA* 1985, 182-194.

Kourkoumelis, D. 1990. Οι Κερκυπαίκοι αμφορείς, *Enalia* 2, 14-19.

Kourouniotes, K. & H.A. Thompson. 1932. The Pnyx in Athens, *Hesperia* 1, 90-217.

Kovalenko S.A. 1989. *Antičnaja rel'efnaja keramika III-I vv. do n.e. v Severnom Pričernomor'e* (Abstract of the PhD thesis). Moskva.

Kovalenko, S.A. 1991. Antičnoe sel'skochozjajstvennoe poselenie vozle sela Pesčanoe, in: Ju.L. Ščapova & I.V. Jacenko (eds.), *Pamjatniki železnogo veka v okrestnostjach Evpatorii*. Moskva 1991, 6-36.

Kovalenko, S.A. 1999. Review of 'E.Ja. Turovskij, Monety nezavisimogo Chersonesa 4-2 vv. do n.e.', *RosA* 3, 202-210.

Kovalenko, S.A. 2002. O structure i dinamike importa pozdneellinističeskoj rel'efnoj keramiki v Severnoe Pricernomor'e, *ArcheologijaKiev* 3, 80-96.

Kozub, Ju.I. 1984. Istoričeskaja topografija nekropolja Ol'vii, in: S.D. Kryžickij, S.N. Mazarati & A.S. Rusjaeva (eds.), *Antičnaja kul'tura Severnogo Pričernomor'ja*. Kiev 1984, 41-52.

Krapivina, V.V. 1993. *Ol'vija. Material'naja kul'tura I-IV vv. n.e*. Kiev.

Krapivina, V.V. & P.D. Diatroptov (forthcoming). Nadpis' namestnika Mitridata VI Eupatora iz Ol'vii, *VDI*.

Kroll, J. 1993. *The Greek Coins* (The Athenian Agora, 26). Princeton.

Kruglikova, I.T. 1983. Chersonesskaja usad'ba na nadele no. 10, *KSIA* 174, 43-51.

Kryžickij, S.D. 1985. *Ol'vija. Istoriografičeskoe issledovanie architekturno-stroitelnych kompleksov*. Kiev.

Kryžickij, S.D., S.B. Bujskich, A.V. Burakov & V.M. Otreško. 1989. *Sel'skaja okruga Ol'vii*. Kiev.

Kryžickij, S.D., S.B. Bujskich & V.M. Otreško. 1990. *Antičnye poselenija Nižnego Pobuž'ja (archeologičeskaja karta)*. Kiev.

Kutajsov, V.A. (ed.) 1994. *Severo-Zapadnyj Krym v antičnuju epochu*. Kiev.

Kutajsov, V.A. & V.B. Užencev. 1991. Nekotorye itogi izučenija Kalos Limena, in *Problemy archeologii Severnogo Pričernomor'ja (k 100-letiju osnovanija Chersonskogo muzeja drevnostej)*. Cherson 1991, 86-92.

Kutajsov, V.A. & V.B. Užencev. 1994. Vostočnye vorota Kalos Limena, in: Kutajsov (ed.) 1994, 44-70.

Kutajsov, V.A. & V.B. Užencev. 1997. Ellinističeskaja citadel' Kalos Limena, in: *Chersones v antičnom mire. Istoriko-archeologičeskij aspekt. Tezisy dokladov meždunarodnoj naučnoj konferencii*. Sevastopol' 1997, 77-81.

Lancov, S.B. 1989. Antične poselennja bilja ozera Kizil-Jar, *ArcheologijaKiev* 3, 78-84.

Lancov, S.B. 1994. Antičnoe poselenie Novo-Fedorovka i nekotorye voprosy istorii Chersonesskoj chory, in: Kutaisov (ed.) 1994, 71-104.

Landolfi, M. 1996. I vasi alto-adriatico da Numana e dal Piceno, in: F. Berti, S. Bonomi & M. Landolfi (eds.), *Classico e Anticlassico: Vasi alto-adtriatico tra Piceno, Spina e Adria*. Bologna, 13-34.

Landolfi, M. 2000. Il pittore di Filottrano e la tarda ceramica attica a figure rosse nel Piceno, in: Sabattini (ed.) 2000, 77-91.

Lang, M.L. 1990. *Ostraka* (The Athenian Agora, 25). Princeton.

Latyschev, B. 1916. *Inscriptiones antiquae orae septentrionalis Ponti Euxini Graecae et Latinae*. Vol. I^2. St Petersburg (reprint Hildesheim 1965).

Lauter-Bufe, H. 1989. Die Festung auf Koroni und die Bucht von Porto Raphti, in: *Attische Festungen* (Attische Forschungen, 3, MarbWPr 1988). Marburg, 67-102.

Lauter-Bufe, H. & H. Lauter. 1971. Wohnhäuser und Stadtviertel des klassischen Athen, *AM* 86, 109-124.

Lawall, M.L. 1995. *Transport amphoras and trademarks: Imports to Athens and economic diversity in the 5th c. BC.* (PhD diss. University of Michigan).

Lawall, M.L. 1997. Shape and symbol: Regionalism in 5th century transport amphora production in northeastern Greece, in: C. Gillis, C. Risberg & B. Sjöberg (eds.), *Trade and production in premonetary Greece: Production and craftsmen: Proceedings of the 4th and 5th Int'l workshops, Athens 1994 and 1995* (SIMA Pocket-Book, 143). Jonsered 1997, 113-130.

Lawall, M.L. 1998. Bolsals, Mendean amphoras and the date of the Porticello shipwreck, *IJNA* 27, 16-23.

Lawall, M.L. 1999. Studies in Hellenistic Ilion: The Lower City. The transport amphoras, *StTroica* 9, 187-224.

Lawall, M.L. 2000. Graffiti, wine selling, and the reuse of amphoras in the Athenian Agora, c. 430 to 400 BC, *Hesperia* 69, 3-90.

Lawall, M.L. 2001a. Amphoras in the 1990s: In need of archaeology, *AJA* 105, 533-537.

Lawall, M.L. 2001b. Review of Börker & Burow 1998, in: *BJb* 199, 578-580.

Lawall, M.L. 2002a. Early excavations at Pergamon and the chronology of Rhodian amphora stamps, *Hesperia* 71, 295-324.

Lawall, M.L. 2002b. Ilion before Alexander: amphoras and economic archaeology, *StTroica* 12, 197-244.

Lawall, M.L. (forthcoming). Archaeological context and Aegean amphora chronologies: A case study of Hellenistic Ephesos, in: J. Eiring & J. Lund (eds.), *Transport amphorae and trade in the eastern Mediterranean, International colloquium at the Danish Institute in Athens, 26-29 September 2002*.

Lawall, M.L. (forthcoming). Nothing to do with Mendaian amphoras? Athenaeus XI.784c, in: M. Joyal & R.B. Egan (eds.), *Daimonopylai, Studies in honour of Edmond Berry*.

Lawall, M., K.M. Lynch, J.K. Papadopoulos & S.I. Rotroff. 2002. Notes from the Tins 2: Research in the Stoa of Attalos, *Hesperia* 71, 415-430.

Lazarov, M. 1973. Antični amfori (VI – I st. pr. n. e.) ot B'lgarskoto Černomor'e, *IzvVarna* 9, 3-52.

Lazarov, M. 1975. Nepublikuvani antični amfori i amforni pečati ot bulgarskoto Černomorie, *IzvVarna* 11, 128-136.

Lazarov, M. 1978. Amphores et timbres amphoriques d'Heraclée Pontique trouvées à Apollonie Pontique, in: *Studia in honorem Veselini Beševliev*. Sofia 1978, 299-309.

Lazarov, M. 1980. Timbres amphoriques de Nessebre, in: Velkov (ed.) 1980, 156-185.

Lazarov, M. 1982. T'rgovijata na Chios s's zapadnopontijskite gradove, *IzvVarna* 18 [33], 5-15.
Lazarov, M. 1999. Les importations amphoriques thasiennes à Odessos, in: Garlan (ed.) 1999, 195-200.
Le Dinahet-Couillard, M.-T. 1997. Une famille de notables tyriens à Délos, *BCH* 121, 617-666.
Lejpuns'ka, N.O. 1971. Metodika klassifikacii amfornogo materialu, *ArcheologijaKiev* 3, 63-74.
Lejpuns'ka, N.O. 1990. Novyj napys z Ol'vii, *ArcheologijaKiev* 3, 117-122.
Lejpuns'ka, N.O. 1994. Central'nyj žytlovyj kvartal Ol'vii, *ArcheologijaKiev* 2, 70-88.
Lejpuns'ka, N.O. 1998. Rozkopky diljanky NGS v Ol'vii (1997-1998), *Archeologični vidkryttja v Ukraine 1997-1998 rr*. Kiev, 100-101.
Lejpuns'ka, N.O. 1999. Kompleks pizn'oellinistyčnych amfor z Ol'vii, *ArcheologijaKiev* 1, 64-76.
Lejpunskaja, N.A. 1981. *Keramičeskaja tara iz Olvii.* Kiev.
Leper, R. Chr. 1912. Chersonesskie nadpisi, *IAK* 45, 23.
Leschhorn, W. 1993. *Antike Ären. Zeitrechnung, Politik und Geschichte im Schwarzmeerraum und in Kleinasien nördlich des Tauros*. Stuttgart.
Levi, E.I. 1956. Ol'vijskaja agora, in: V.F. Gajdukevič (ed.), *Ol'vija i Nižnee Pobuž'e v antičnuju epochu* (MatIsslA, 50). Moskva-Leningrad, 35-118.
Levi, E.I. 1985. *Ol'vija. Gorod epochi ellinizma*. Leningrad.
Lewis, D.M. 1962. The chronology of the Athenian New Style coinage, *NC* 2, 275-300.
Limberis, N.Ju. & I.I. Marčenko. 2000. "Megarskie" čaši iz meotskich pogrebenij Prikuban'ja, in: V.B. Vinogradov (ed.), *Staryj Svet: archeologija, istorija, etnografija. Sbornik naučnych statej, posvjaščennyj 60-letiju so dnja roždenija professora N.I. Kireja*. Krasnodar 2000, 4-18.
Lo Porto, F.G. 1975. L'attività archeologica in Puglia. in: *Atti dei Convegni di Studio sulla Magna Grecia.* Taranto, 635-645.
Lungu, V. 1990. Nouvelles données concernant la chronologie des amphores rhodiennes de la fin du IIIe siecle au debut du IIe siècle av. J.-C., *Dacia* 34, 209-217.
Lungu, V. 1991. Nouveaux timbres amphoriques de Sarichioi (dep. de Tulcea), *Dacia* 35, 185-188.
Lungu, V. 1992. Circulația amforelor ştampilate în zona Capul Dolojman, *Pontica* 25, 69-97.
Lungu, V. 1995. Une tombe du IVe siècle av. J.-C. dans la nécropole tumulaire de la cité d'Orgamè-Argamum, *Peuce* 11, 231-263.
Lungu, V. 1999. Remarques sur la chronologie des timbres thasiens, à propos d' une tombe du IVe s. av. J.-C., in: Garlan (ed.) 1999, 71-80.
Lungu, V. & Gh. Mănucu Adameşteanu. 1995. Săpături arheologice de salvare pe teritoriul comunei Sarichioi (jud. Tulcea), *Peuce* 11, 339-362.

MacDonald, B.R. 1979. *The distribution of Attic pottery from 450 to 375 B.C.: The effects of politics on trade* (PhD dissertation, University of Pennsylvania).
Magie, D. 1950. *Roman Rule in Asia Minor to the End of the Third Century after Christ*. Princeton.
Maksimova, M.I. 1979. *Artjuchovskij kurgan*. Leningrad.
Manacorda, D. 1990. Le fornaci di Visellio a Brindisi. Primi risultati dello scavo, *Vetera Christianorum* 27, 79-102.
Marcadé, J. 1954. Délos 3. Terasse des dieux étrangers. Chronique des Fouilles en 1953, *BCH* 78, 217-220.
Mărculescu, O. 1934. Bizone – Portul Cavarna. Monografie istorică, *Analele Dobrogei* 15, 145-161.
Mărculescu, O. 1935. Descoperiri arheologice dobrogene, *Analele Dobrogei* 16, 119-129.
Marčenko, I.I. 1996. *Siraki Kubani*. Krasnodar.
Martin, Th.R. 1985. *Sovereignty and Coinage in Classical Greece*. Princeton.
Massa, M. 1992. *La ceramica ellenistica con decorazione a rilievo della bottega di Efestia* (Monografie della Scuola Archeologica di Atene e delle Missioni Italiani in Oriente, 5). Rome.
Mattingly, H.B. 1990. The Beginning of Athenian New Style Silver Coinage, *NC* 150, 67-78.
Mattingly, H.B. 1998. The Coinage of Mithradates III, Pharnakes and Mithradates IV of Pontos, in: R. Ashton & S. Hunter (eds.), *Studies in Greek Numismatics in Memory of Jessop Price*. London, 255-257.
McCredie, J. 1966. *Fortified military camps in Attica* (Hesperia Suppl., 11). Princeton.
McGing, B. 1986a. *The Foreign Policy of Mithridates VI Eupator, King of Pontus*. Leiden.
McGing, B. 1986b. The Kings of Pontus: Some Problems of Identity and Date, *Rheinisches Museum für Philologie* 129, 248-259.
McShane, R.B. 1964. *The Foreign Policy of the Attalids of Pergamum*. Urbana.
Meadows, A. 2001. Money, Freedom, and Empire in the Hellenistic World, in: Meadows & Shipton (eds.) 2001, 53-63.
Meadows, A. & K. Shipton (eds.) 2001. *Money and Its Uses in the Ancient Greek World*. Oxford.
Mekacher, N., E. Schönenberger & M. Palaczyk. 2003. *Die matrizengeformten Terrakotten der zweiten Hälfte des 4. und des 3. Jahrhunderts v. Chr. Die hellenistischen Amphorenstempel aus Eretria* (Eretria. Ausgrabungen und Forschungen, 12). Lausanne.
Mellor, R. 1978. The Dedications on the Capitoline Hill, *Chiron* 8, 319-330.
Meritt, B.D. 1961. *The Athenian Year*. Berkeley-Los Angeles.
Meritt, B.D. 1977. Athenian Archons 347/6-48/7 B.C., *Historia* 26, 161-191.
Metzger, I.R. 1969. *Die hellenistische Keramik in Eretria* (Eretria. Ausgrabungen und Forschungen, 2). Bern.

Metzger, I. 1990. Die Keramik aus der Zerstörungsschicht des Mosaikenhauses in Eretria, in: *Β΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Πρακτικά, Ρόδος 1989*. Athens, 44-47.
Metzger, I. 2000. Funde aus einem Brunnen in Gebäude IV in Eretria, in: *Ε΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Χρονολογικά προβλήματα κλειστά σύνολα εργαστήρια, Χανιά 1997.* Athens, 345-356.
Michlin, B.Ju. 1975. Sarmatskoe pogrebenie v Južnom Donbasse, *SovA* 4, 185-192.
Michlin, B.Ju. 1979. K izučeniju chersonesskich keramičeskich klejm, *VDI* 2, 139-159.
Michlin, B.Ju. 1980. Fibuly Beljausskogo mogil'nika, *SovA* 3, 194-213.
Mirčev, M. 1958. *Amfornite pečati ot muzeja vuv Varna*. Sofia.
Mirčev, M., G. Tončeva & D. Dimitrov. 1962. Bizone-Karvuna, *IzvVarna* 13 (28), 21-109.
Mommsen, Th. 1887. Mithradates Philopator Philadelphos, *ZfN* 15, 207-219.
Monachov, S.Ju. 1984. Proizvodstvo amfor v ellinističeskom Chersonese, *VDI* 1, 109-128.
Monachov, S.Ju. 1989a. *Amfory Chersonesa Tavričeskogo IV-II vv. do n.e. Opyt sistemnogo analiza.* Saratov.
Monachov, S.Ju. 1989b. Amfory Kolofona, in: *Skifija i Bospor*. Novočerkassk 1989, 53-55.
Monachov, S.Ju. 1990. Amfory tipa Murigiol', in: *Meždunarodnye otnošenija v bassejne Černogo morja v drevnosti i srednie veka* 5, Rostov-na-Donu 1990, 13-14.
Monachov, S.Ju. 1992. Dinamika form i standartov sinopskich amfor, in: Kac & Monachov (eds.) 1992, 163-204.
Monachov, S.Ju. 1993. Les amphores de Sinope, *Anatolia antiqua* 2, 107-132.
Monachov, S.Ju. 1996. Amfory Klazomen i "kruga Klazomen", in: *Meždunarodnye otnošenija v bassejne Černogo morja v drevonsti i srednie veka*. Rostov-na-Donu 1996, 38-45.
Monachov, S.Ju. 1997. Ob amfornyh kompleksach: "čistych" i "nečistych", uzkich i širokich, in: Ochotnikov et al. (eds.) 1997, 202-212.
Monachov, S.Ju. 1999a. *Grečeskie amfory v Pričernomor'e. Kompleksy keramičeskoj tary VII-II vekov do n. e.* Saratov.
Monachov, S.Ju. 1999b. Zametki po lokalizacii keramičeskoj tary. II: Amfory i amfornye klejma polisov Severnoj Egeidy, *AMA* 10, 129-147.
Monachov, S.Ju. 2003. *Grečeskie amfory v Pričernomor'e. Tipologija amfor veduščich centrov-eksporterov tovarov v keramičeskoj tare. Katalog-opredelitel'*. Moskva-Saratov.
Monachov, S.Ju. & E.Ja. Rogov. 1990a. Amfory nekropolja Panskoe I, *AMA* 7, 128-153.
Monachov, S.Ju. & E.Ja. Rogov. 1990b. Keramičeskie kompleksy nekropolja Panskoe I, *AMA* 8, 122-151.

Monsieur, P. 1990. Une amphore de Chios au musée de Tournai, *AntClass* 59, 237-245.

Moore, M.B. 1997. *Attic Red-figured and White-ground Pottery* (The Athenian Agora, 30). Princeton.

Mordvintseva, V.I. 1999. A Typology of the Sarmatian Phalerae III Century BC - II Century AD, *ActaArch* 70, 137-147.

Mordvinceva, V.I. 2001. *Sarmatische Phaleren* (Archäologie in Eurasien, 11). Rahden.

Mordvintseva, V.I. & Yu.P. Zaytsev (forthcoming). Nogaychikskiy kurgan, *Ancient Civilizations*.

Morel, J.-P. 1995. Observations sur les céramiques à vernis noire d'Alexandrie, in: *Alessandria e il mondo ellenistico-romano, Alessandria, 23-27 novembre 1992*. Rome, 368-376.

Morel, J.-P. 2000. La céramique attique à vernis noir du IVe siècle: positions des problèmes, in: Sabattini (ed.) 2000, 11-22.

Mørkholm, O. 1966. *Antiochus IV of Syria*. Copenhagen.

Mørkholm, O. 1984. The chronology of the New Style coinage of Athens, *ANSMN* 29, 29-42.

Museteanu C., N. Conovici & A. Anastasiu. 1978. Contribution au probleme de l'importation des amphores grecques dans le sud-est de la Muntenie, *Dacia* 22, 173-199.

Neverov, O.Ja. 1976. Portretnye gemmy i perstni iz Severnogo Pričernomor'ja, *TrudyErmit* 17, 166-183.

Ninou, K. (ed.) [1978]. *Treasures of Ancient Macedonia.* Thessalonike.

Oakley, J. & S.I. Rotroff. 1992. *Debris from a public dining place in the Athenian Agora* (Hesperia Suppl., 25). Princeton.

Oberländer-Târnoveanu, I. & E. Oberländer-Târnoveanu. 1980. Aspecte ale civilizației geto-dacice din Dobrogea în lumina cercetărilor din aşezarea de la Sarichioi (sec. IV-II î. e.n.), *Peuce* 8, 77-142.

Ochotnikov, S.B. (ed.) 1993. *Drevnee Pričernomor'e.* Odessa.

Ochotnikov, S.B. et al. (eds.) 1997. *Nikonij i antičnyj mir Severnogo Pričernomor'ja*. Odessa.

Oekonomides-Caramessini, M. 1976. The 1973 Piraeus Hoard of Athenian Bronze Coins, *AAA* 9 (2), 220-223.

Oliver, G. 2001. The Politics of Coinage: Athens and Antigonus Gonatas, in: Meadows & Shipton (eds.) 2001, 35-52.

Opaiț, A. 1991. Ceramica din aşezarea şi cetatea de la Independența (Murighiol) secolele V î. e.n.-VII e.n., *Peuce* 10, 133-182.

Orlandini, P. & D. Adamesteanu. 1960. Gela – nuovi scavi, *NSc* series 8, 14, 67-246.

Otreško, V.M. 1882. Z istorii Ol'vijskogo polisa v IV-I st. do n.e., *ArcheologijaKiev* 41, 34-46.

Özyigit, Ö. 1988. 1988 yılı Erythrai sondaj çalısmaları, *KST* 11, 125-150.

Palaczyk, M. 2001. Rhodische Rundstempel mit Helioskopf. Zur Chronologie der Perioden V und VI, in: *Zona Archaeologica. Festschrift für H.P. Isler zum 60. Geburtstag*. Bonn 2001, 319-329.

Palazzo, P. 1989. Le anfore di Apani (Brindisi), in: M. Lenoir, D. Manacorda, & C. Panella (eds.), *Amphores romaines et histoire economique, dix ans de recherche* (CollEFR, 114). Rome 1989, 548-553.

Palazzo, P. 1990. Brindisi. Località 'La Rosa': reperti anforari, *Taras* 10, 141-156.

Panas, C. & H. Pontes 1998. Stamped Amphora and Lagynos Handles from the 1989-1995 Seasons, *StTroica* 8, 223-262.

Papadopoulos, J.K. & S. Paspalas. 1999. Mendaian as Chalkidian Wine, *Hesperia* 68, 161-188.

Parker, A. 1992. *Ancient Shipwrecks of the Mediterranean and the Roman Provinces* (BAR International Series, 580). Oxford.

Parlasca, K. 1976. Zur Verbreitung ptolemäischer Fayencekeramik ausserhalb Ägyptens, *JdI* 91, 135-156.

Parovič-Pešikan, M.B. 1974. *Nekropol' Ol'vii ellinističeskogo vremeni.* Kiev.

Paul-Zinserling, V. 1994. *Der Jena-maler und sein Kreis. Zur Ikonologie einer attischen Schalenwerkstatt um 400 v. Chr*. Mainz.

Peirce, S. 2001. The Greek transport amphorae, in: A. Cambitoglou, J.K. Papadopoulos & O. Tudor Jones (eds.), *Torone I, the excavations of 1975, 1976, and 1978*. Athens 2001, 495-513.

Picard, O. 1985. Thasos et la Macédoine au IVe et IIIe siècle, *CRAI*, 761-776.

Picard, O. 1989. Le comblement d'un puits publique à Thasos. 1. Les monnaies, *BCH* 113, 474-476.

Picard, O. 1997. Monnaies de fouilles et histoire grecque: l'example de Thasos, in: K. Sheedy & Ch. Papageorgiadou (eds.), *Numismatic archaeology, archaeological numismatics, proceedings of an international conference held to honour Dr. Mando Oeconomides in Athens 1995*. Exeter 1997, 29-39.

Pemberton, E.G. 1989. *The Sanctuary of Demeter and Kore. The Greek pottery* (Corinth, 18.1). Princeton.

Pemberton, E.G. 1997. Corinthian black-glazed pottery with incised and stamped decoration, *Hesperia* 66, 49-97.

Perl, G. 1968. Zur Chronologie der Königreiche Bithynia, Pontos und Bosporos, in: J. Harmatta (ed.), *Studien zur Geschichte und Philosophie des Altertums*. Amsterdam, 299-330.

Pfrommer, M. 1985. Studien zu einzelnen Fundgruppen. a) Klassische und hellenistische Keramik aus dem Heroon III, *IstMit* 35, 39-76.

Plantzos, D. 1999. *Hellenistic Engraved Gems.* Oxford.

Plešivenko, A.G. 1992. Torgovye svjazi Kamenskogo gorodišča (po amfornym klejmam, *Drevnosti Stepnogo Pričernomor'ja i Kryma* 3, 162-172.

Pogrebova, N.N. 1958. Pozdneskifskie gorodišča na Nižnem Dnepre (Gorodišča Znamenskoe i Gavrilovskoe), in: *Pamjatniki skifo-sarmatskogo vremeni v Severnom Pričernomor'e* (MatIssIA, 64), 103-247.

Pogrebova, N.N. 1961. Pogrebenija v mavzolee Neapolja Skifskogo, *MatIsslA* 96, 103-213.

Polin, S.V. 1992. *Ot Skifii k Sarmatii*. Kiev.

Polin, S.V. 1994. Kompleks amfor vtoroj četverti IV v. do n.e. iz kurgana u g. Ordžonikidze Dnepropetrovskoj oblasti, in: V.P. Kopylov et al. (eds.), *Meždunarodnye otnošenija v bassejne Černogo morja v drevnosti i srednie veka. Tezisy dokladov VII meždunarodnoj naučnoj konferencii (17-21 maja 1994 g.).* Rostov-na-Donu 1994, 55-57.

Pouilloux, J. 1954. *Recherches sur l'histoire et les cultes de Thasos de la fondation de la cite à 196 av. J.-C.* (Études thasiennes, 3). Paris.

Preka-Alexandri, K. 1992. A ceramic workshop in Figareto, Corfu, in: F. Blondé & J.-Y. Perrault (eds.), *Les ateliers de potiers dans le monde grec aux époques géometrique, archaïque et classique* (BCH Suppl., 23). Paris 1992, 41-52.

Price, M.J. 1989. The Larissa, 1968 hoard (IGCH 237), in: G. Le Rider et al. (eds.), *Kraay–Mørkholm Essays. Numismatic Studies in Memory of C.M. Kraay and O. Mørkholm*. Louvain-la-Neuve 1989, 233-243.

Price, M.J. 1993. *SNG. IX. The British Museum. 1. The Black Sea*. London.

Pulak, C. & R.F. Townsend. 1987. The Hellenistic shipwreck at Serçe Limanı, Turkey: Preliminary report, *AJA* 91, 31-57.

Py, M. & B. Sabattini. 2000. La céramique attique du IVe s. à Lattes (Hérault), in: Sabattini (ed.) 2000, 167-200.

Rădulescu. A., M. Bărbulescu & L. Buzoianu. 1986. Importuri amforice la Albeşti (jud. Constanța): Heraclea Pontica, *Pontica* 19, 33-60.

Rădulescu, A., M. Bărbulescu, & L. Buzoianu. 1987. Importuri amforice la Albeşti (jud. Constanța): Rhodos, *Pontica* 20, 53-77.

Rădulescu, A., M. Bărbulescu & L. Buzoianu. 1990. Importuri amforice la Albeşti (jud. Constanța): Chersonesul Tauric, Cnidos, Cos, Paros, *Pontica* 23, 29-48.

Rădulescu, A., M. Bărbulescu, L. Buzoianu & N. Georgescu. 1989. Importuri amforice la Albeşti (jud. Constanța): Sinope, *Pontica* 21-22, 23-90.

Rădulescu. A., M. Bărbulescu, L. Buzoianu & N. Georgescu. 1993. Observații privind aşezarea greco-autohtonă de la Albeşti (jud. Constanța), *Pontica* 26, 121-158.

Raeck, W. with A. Gorys & B. Gossel-Raeck. 2000. Untersuchungen zur Vorgängerbebauung des Trajaneums von Pergamon II: Der Bereich westlich des Tempels, untere Hangstufe, *IstMitt* 50, 307-364.

Raev, B.A., Simonenko, A.V. & M.Yu. Treister. 1991. Etrusco-Italic and Celtic Helmets in Eastern Europe, *JbRGZM* 38, 465-496.

Rappaport, U. 1969. Les Iduméens en Égypte, *RPh* 43, 73-82.

Ratner, I.D. 1950. *Dnevnik raskopok na poselenii u Glubokoj Pristani, Bugo-Dneprovskaja ekspedicija IA AN USSR, Chersonskij otrjad,* Archives of the Cherson regional museum.

Reber, K. 1998. *Die klassische und hellenistische Wohnhäuser in Westquartier* (Eretria. Ausgrabungen und Forschungen, 10). Lausanne.

Reeder, E.D. (ed.) 1999. *Scythian Gold. Treasures from ancient Ukraine.* New York.
Reinach, Th. 1895. *Mithradates Eupator, König von Pontos*. Leipzig.
Reinach, Th. 1905. A Stele from Abonuteichos, *NC* 4, ser. 5, 113-119.
Reinders, H.R. 1988. *New Halos. A Hellenistic town in Thessalía, Greece*. Utrecht.
Reusser, Chr. 1993. *Der Fidestempel auf dem Kapitol in Rom und seine Ausstattung*. Rome.
Robert, L. 1978. Monnaies et textes Grecs, *JSav* 1978, 22, 145-163.
Robinson, D.M. 1933. *Mosaics, Vases, and Lamps of Olynthus found in 1928 and 1931* (Olynthus, 5). Baltimore-London.
Robinson, D.M. 1950. *Vases Found in 1934 and 1938* (Olynthus, 13). Baltimore-London.
Robinson, D.M. 1952. *Terracottas, Lamps, and Coins found in 1934 and 1938* (Olynthus, 14). Baltimore-London.
Robinson, H.S. 1959. *Pottery of the Roman period. Chronology* (The Athenian Agora, 5). Princeton.
Rogers, E. 1932. *The Copper Coinage of Thessaly*. London.
Rogov, E.Ya. 2002. The Metal Objects, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 252-267.
Rogov, E.Ja. & I.V. Tunkina. 1998. Raspisnaja i černolakovaja keramika iz nekropolja Panskoe I, *Archeologičeskie vesti* 5, 159-175.
Romano, D.G. 1985. The Panathenaic stadium and theatre of Lykourgos: A Re-examination of the facilities on the Pnyx Hill, *AJA* 89, 449-454.
Romano, D.G. 1993. Post-146 B.C. land use in Corinth and the planning of the Roman colony of 44 B.C., in: T.E. Gregory (ed.), *The Corinthia in the Roman period* (JRA Suppl., 8). Ann Arbor 1993, 9-30.
Romano, I.B. 1994. A Hellenistic Deposit from Corinth, Evidence for Interim Period Activity (146-44 B.C.), *Hesperia* 63, 57–104.
Rotroff, S.I. 1982. *Hellenistic Pottery: Athenian and Imported Moldmade Bowls* (The Athenian Agora, 22). Princeton.
Rotroff S.I. 1983. Three Cistern Systems on the Kolonos Agoraios, *Hesperia* 52, 257-297.
Rotroff, S.I. 1984. Spool Saltcellars in the Athenian Agora, *Hesperia* 53, 343-354.
Rotroff, S.I. 1987. Two Centuries of Hellenistic Pottery: Preface, in: H.A. Thompson, D.B. Thompson & S.I. Rotroff, *Hellenistic Pottery and Terracottas*. Princeton 1987, 1-8.
Rotroff, S.I. 1988. The Long-Petal Bowl from the Pithos Settling Basin, *Hesperia* 57, 87–93.
Rotroff, S.I. 1990. Athenian Hellenistic Pottery: Toward a Firmer Chronology, in: *Akten des XIII. internationalen Kongresses für klassische Archäologie, Berlin 1988*. Mainz, 174-178.
Rotroff, S.I. 1991. Attic West Slope Vase Painting, *Hesperia* 60, 59-102.
Rotroff, S.I. 1994. Review of Massa 1992, *BJb* 194, 578-580.

Rotroff, S.I. 1996. Pnyx III: Pottery and Stratigraphy, in: Forsén & Stanton (eds.) 1996, 35-40.

Rotroff, S.I. 1997a. From Greek to Roman in Athenian Ceramics, in: M.C. Hoff & S.I. Rotroff (eds.), *The Romanization of Athens* (Oxbow Monograph, 94). Oxford, 97-116.

Rotroff, S.I. 1997b. *Hellenistic Pottery: Athenian and Imported Wheelmade Table Ware and Related Material* (The Athenian Agora, 29). Princeton.

Rotroff, S.I. 2000. A Sullan deposit at the Athenian Agora, in: *Ε΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Χρονολογικά προβλήματα κλειστά σύνολα εργαστήρια, Χανιά 1997*. Athens, 375-380.

Rotroff, S.I. & J.M. Camp. 1996. The date of the third period of the Pnyx, *Hesperia* 65, 263-294.

Rouillard, P. & M.-C. Villanueva-Puig (eds.) 1987 [1989]. *Grecs et Ibères au IVe siècle av. J.C. Commerce et iconographie* (REA, 89). Paris.

Rudenko, S.I. 1962. *Sibirskaja kollekcija Petra I*. Moskva-Leningrad.

Rudolph, W. 1995. *A Golden Legacy. Ancient Jewelry from the Burton Y. Berry Collection at the Indiana University Art Museum.* Bloomington Ind.

Rusjaeva, A.S. 1991. Issledovanija Zapadnogo temenosa Ol'vii (predvaritel'nye itogi), *VDI* 4, 123-138.

Rusjaeva, A.S. & V.V. Krapivina. 1992. Do istorii Ol'vii IV-I st. do n.e., *ArcheologijaKiev* 4, 58-77.

Ruxer, M.S. & J. Kubczak. 1972. *Naszyjnik Grecki w Okresach Hellenistycznym i Rzymskim.* Warszawa-Poznan.

Sabattini, B. (ed.) 2000. *La céramique attique du IVe siècle en Méditerranée occidentale. Actes du colloque international organisé par le Centre Camille Jullian Arles, 7-9 décembre 1995.* Naples.

Sabattini, F. 2000. Les skyphos du F. B. Group à Spina: apport chronologique de l'étude stylistique et typologique, in: Sabattini (ed.) 2000, 47-66.

Sabetai, V. 1993. *The Washing Painter. A contribution to the wedding and genre iconography in the second half of the fifth century B.C.* (PhD dissertation, University of Cincinnati).

Saprykin, S.Ju. 1980. K tipologii dvuch grup monet Chersonesa, *SovA* 3, 43-57.

Saprykin, S.J. 1990. Rev. of McGing 1986a, *VDI* 2, 204-209.

Saprykin, S.Ju. 1994. *Ancient farms and land-plots on the khora of Khersonesos Taurike (research in the Herakleian peninsula 1974-1990)* (McGill University Monographs in Classical Archaeology and History, 16). Amsterdam.

Sartre, M. 2001. *D'Alexandre à Zénobie. Histoire du Levant antique, IV*e *siècle av. J.-C. – III*e *siècle ap. J.-C.* Paris.

Schlorb-Vierneisel, B. 1966. Eridanos-Necropole. I. Graber und Opferstellen hS 1-204, *AM* 81, 4-111.

Schmid, S.G. 1999. Eine Gruppe nordägäischer Transportamphoren, *AM* 114, 143-156.

Schmid, S.G. 2000a. A group of early Hellenistic pottery from a well in Eretria, in: *Ε΄ Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική. Χρονολογικά προβλήματα κλειστά σύνολα εργαστήρια, Χανιά 1997*. Athens, 361-372.

Schmid, S.G. 2000b. Sullan debris from Eretria (Greece)?, in: S. Zabehlicky-Scheffenegger (ed.), *Rei cretariae romanae fautorum acta* 36. Abingdon 2000, 169-180.

Schönenberger, E. 1998. Die hellenistischen Amphorenstempel, in: Reber 1998, 238-247.

Schulz, P.N. 1953. *Mavzolej Neapolja Skifskogo*. Moskva.

Sciallano, M. & P. Sibella. 1991. *Amphores, comment les identifier*? Aix-en-Provence.

Scythian Art. The Legacy of the Scythian World: mid-7th to 3rd century BC. Leningrad. 1986.

Sergackov, I.V. 2000. *Sarmatskie kurgany na Ilovle*. Volgograd.

Seyrig, H. 1971. Monnaies Hellénistiques, *RevNum* 13, 7-25.

Seyrig, H. 1986. *Scripta Numismatica*. Paris.

Shear, T. 1969. The Athenian Agora: Excavations of 1968, *Hesperia* 38, 382-417.

Shear, T.L., Jr. 1970. The monument of the Eponymous Heroes in the Athenian Agora, *Hesperia* 39, 145-222.

Shear, T.L., Jr. 1975. The Athenian Agora: Excavations of 1973-1974, *Hesperia* 44, 331-374.

Sherk, R. 1991. The eponymous officials of Greek cities, 3. The register. Thrace, Black Sea area, Asia Minor, *ZPE* 88, 225-260.

Sherwin-White, A.N. 1984. *Roman Foreign Policy in the East 168 B.C. to A.D. 1*. London.

Siebert, G. 2001. *L'îlot des Bijoux, l'îlot des Bronzes, la maison des sceaux,* 1. *Topographie et architecture* (Exploration archéologique de Délos, 38). Paris.

Simion, G., 1995. O nouă necropolă getică la Murighiol, jud. Tulcea, *Peuce* 11, 265-302.

Simonenko, A.V. 1982. O pozdneskifskich nalobnikach, in: Terenožkin (ed.) 1982, 237-245.

Simonenko, A.V. 1993. *Sarmaty Tavrii*. Kiev.

Simonenko, A.V. 2001. O datirovke i proischoždenii antičnych dragocennostej iz pogrebenij sarmatskoj znati I – načala II vv. n.e. in: Zuev et al. (eds.) 2001, 190-194.

Simonenko, A.V. 2001a. Chinese and East Asian Elements in Sarmatian Culture of the North Pontic Region, *Silk Road Art and Archaeology* 7, 53-67.

Skalon, K.M. 1959. O kul'turnych svjazjach Vostočnogo Prikaspija v pozdne-sarmatskoe vremja, *ASbor* 1, 114-140.

Solomonik E.I. 1973. *Novye epigrafičeskie pamjatniki Chersonesa*. Kiev 1973.

Solomonik, E.I. 1976. Nekotorye gruppy graffiti iz antičnogo Chersonesa, *VDI* 3, 121-141.

Solomonik, E.I. & G.M. Nikolaenko. 1990. The land plots of Chersonesos in the early third century BC (ad IOSPE I^2, 403), *VDI* 2, 79-99.

Solomonik E.I. & G.M. Nikolaenko. 1995. Parcelles de terre chersonésiennes au début du IIIe s. av.n.è. (IOSPE, I2, 403), in: M.-M. Mactoux & E. Geny (eds.), *Esclavage et dépendance dans l'historiographie soviétique* (Annales littéraires de l'Université de Besançon. Centre de recherches d'histoire ancienne, 149). Paris, 185-210.

Soznik V.V. & G.R. Cecchladze. 1991. Kolchidskie amfory ellinističeskogo perioda v Chersonese (K voprosu ob ekonomičeskich svjazjach Kolchidy i Chersonesa), *VDI* 2, 61-67.

Sparkes, B.A. 1991. *Greek pottery: An introduction*. Manchester-New York.

Sparkes, B. & L. Talcott. 1970. *Black and Plain Pottery of the 6th, 5th and 4th centuries BC* (The Athenian Agora, 12). Princeton.

Stancomb, W.M. 2000. *SNG. XI. The William Stancomb collection of coins of the Black Sea region*. Oxford.

Stählin, F., E. Meyer & A. Heidner. 1934. *Pagasai und Demetrias.* Berlin-Leipzig.

Stolba, V.F. 1989. Novoe posvjaščenie iz Severo-Zapadnogo Kryma i aspekty kul'ta Gerakla v Chersonesskom gosudarstve, *VDI* 4, 55-70.

Stolba, V.F. 1990. Monetnaja čekanka Kerkinitidy i nekotorye voprosy chersonessko-kerkinitidskich otnošenij, in: *Drevnee Pričernomor'e. Materialy I Vsesojuznych čtenij pamjati professora P.O. Karyškovskogo*. Odessa 1990, 141-155.

Stolba, V.F. 1991. Dom 4 v. do n.e. na poselenii Panskoe I (raskopki 1987 g.), *KSIA* 204, 78-84.

Stolba, V.F. 2003. Some Reflections on the Amphora Stamps with the Name of Amastris, in: Guldager Bilde, Højte and Stolba (eds.) 2003, 279-301.

Stolba, V.F. (forthcoming). The Oath of Chersonesos (IOSPE I^2, 401) and Chersonesean economy in the Early Hellenistic period, in: Z.G. Archibald, J.K. Davies & V. Gabrielsen (eds.), *Ancient Economies, 323-31 BC*. Oxford.

Stolba, V.F. & A.S. Golencov. 2000. Monety iz raskopok i slučajnych nachodok na Južno-Donuzlavskom gorodišče (Severo-Zapadnyj Krym), in: V. Zuev (ed.), *ΣΥΣΣΙΤΙΑ. Pamjati Jurija Viktoroviča Andreeva*. St Peterburg 2000, 274-280.

Strong, D. 1966. *Greek and Roman Gold and Silver Plate.* London.

Ščeglov, A.N. 1978. *Severo-Zapadnyj Krym v antičnuju epochu*. Leningrad.

Ščeglov, A.N. 1994. Monetnye nachodki na Majačnom poluostrove v Jugo-Zapadnom Krymu, in: *Vserossijskaja numizmatičeskaja konferencija, 6-8 aprelja 1994 g. Tezisy dokladov.* St Peterburg, 42-43.

Ščeglov, A.N. 2001. "Staryj" Chersones Strabona. Ukreplenie na perešejke Majačnogo poluostrova: IV tranšeja 1967 goda v veršine Kazač'ej buchty, *Bachčisarajskij istoriko-archeologičeskij sbornik* 2, Simferopol', 53-77.

Ščeglov, A.N. 2002a. Cult Sculpture, Altars, Sacred Vessels and Votives, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 213-227.

Ščeglov, A.N. 2002b. Monumental Building U6, in: Hannestad, Stolba & Ščeglov (eds.) 2002, 29-98.
Ščepinskij, A.A. 1994. Über die Aristokratie der Sarmaten im nördlichen Schwarzmeergebiet, *ZfA* 28, 87-106.
Ščukin, M.B. 1970. K istorii Nižnego Podneprov'ja v pervye veka našej ery, *ASbor* 12, 54-67.
Ščukin, M.B. 1994. *Na rubeže er.* St Peterburg.
Šelov, D.B. 1975. Keramičeskie klejma iz Tanaisa III–I vv. do n.e. Moskva.
Šelov, D.B. 1983. Goroda Severnogo Pričernomor'ja i Mitridat Evpator, *VDI* 2, 40-58.
Šilov, V.P. 1956. Pogrebenija sarmatskoj znati 1 v. do n.e. – 1 v. n.e., *Sbornik Gosudarstvennogo Ermitaža* 9, 42-45.
Škorpil, V.V. 1916. Otčet o raskopkach v g. Kerči, na Tamanskom poluostrove i v Alušte v 1912 godu, *IAK* 60, 7-35.
Škorpil, K. 1934. Pečati vurchu amfori ot' Černomorskoto krajbrežie, *IzvSofia* 8, 24-43.
Štal', I.V. 1991. Sinopskie klejma Gekateja syna Posideja s emblemoj mifo-epičeskogo charaktera, *Terra antiqua balcanica* 6, 282-291.
Talcott, L. 1935. Attic Black Glazed Stamped Ware and other pottery from a fifth century well, *Hesperia* 4, 477-523.
Talcott, L. 1951. Review of *Olynthus* XIII, *AJA* 55, 430-431.
Talcott, L., Philippaki, B., Edwards G.R. & V. Grace. 1956. *Small Objects from the Pnyx: II* (Hesperia Suppl., 10). Princeton.
Tekkök, B. 2001. The City Wall of Ilion, New Evidence for Dating, *StTroica* 10, 85-95.
Tekkök-Biçken, B. 1996. *The Hellenistic and Roman Pottery from Troia: The Second Century B.C. to the Sixth Century A.D.* (PhD dissertation University of Missouri-Columbia).
Teodorescu, D.M. 1918. *Monumente inedite din Tomi*. Bucureşti.
Teodorsson, S.-T. 1978. *The Phonology of Attic in the Hellenistic Period* (Studia Graeca et Latina Gothoburgensia, 40). Uppsala.
Terenožkin, A.I. (ed.) 1982. *Drevnosti stepnoj Skifii*. Kiev.
Thompson, D.B. 1952. Three centuries of Hellenistic terracottas IA, *Hesperia* 21, 116-164.
Thompson, D.B. 1963. Three Centuries of Hellenistic Terracottas. Part III: The Late Third Century B.C., *Hesperia* 22, 276-292.
Thompson, H.A. 1934. Two Centuries of Hellenistic Pottery, *Hesperia* 3, 311-476.
Thompson, H.A. 1940. *The Tholos of Athens and its Predecessors* (Hesperia, Suppl., 4). Princeton.
Thompson, H.A. 1982. The Pnyx in Models, in: *Studies in Attic Epigraphy, History and Topography presented to Eugene Vanderpool* (Hesperia Suppl., 19). Princeton 1982, 133-147.

Thompson, H.A. & R.L. Scranton. 1943. Stoas and City Walls on the Pnyx, *Hesperia* 12 1943, 269-383.
Thompson, M. 1961. *The New Style Silver Coinage of Athens* (NS, 10). New York.
Thompson, M., O. Mørkholm & C.M. Kraay (eds.) 1973. *An Inventory of Greek Coin Hoards*. New York.
Threatte, L. 1980. *The Grammar of Attic Inscriptions*. 1. *Phonology*. Berlin-New York.
Tochtas'ev, S.R. 1997. K izdaniju kataloga keramičeskich klejm Chersonesa Tavričeskogo. Rev.: V.I. Kac, Keramičeskie klejma Chersonesa Tavričeskogo. Katalog-opredelitel'. Saratov 1994, *Hyperboreus* 3, 2, 362-404.
Toščev, G.N. (ed.) 1994. *Tezisy dokladov meždunarodnoj konferencii "Problemy skifo-sarmatskoj archeologii Severnogo Pričernomor'ja", posvjaščennoj 95-letiju so dnja roždenija professora B.N. Grakova*. Zaporož'e.
Townsend, R. 1995. *The East Side of the Agora: The Remains beneath the Stoa of Attalos* (The Athenian Agora, 27). Princeton.
Tracy, S.V. 1990. *Attic Letter-Cutters of 229 to 86 B.C.* Princeton.
Tracy, S.V. 1992. Inscriptiones Deliacae: IG XI 713 and IG XI 1056, *AM* 107, 303-313.
Treister, M.Ju. 1982. Bronzovye perstni s izobraženijami na ščitkach iz Gorgippii i okrestnostej, *VDI* 3, 67-76.
Treister, M.Ju. 1985. Bospor i Egipet v III v. do n.e., *VDI* 1, 126-139.
Treister, M.Yu. 1997. Concerning the Jewellery Items from the Burial-Mound at Nogajchik, *Ancient Civilizations* 4.2, 122-157.
Trias, G. 1987. La ceramica atica de figuras rojas, in: Arribas, Trias, Cerdá, & de la Hoz 1987, 47-126.
Trias, G. 1989. El Sec: La céramica ática de figuras rojas, in: Rouillard & Villanueva-Puig (eds.) 1987 [1989], 21-49.
Turovskij, E.Ja. 1997. *Monety nezavisimogo Chersonesa 4-2 vv. do n.e.* Sevastopol.
Turovskij, E.Ja. 1998. Monety iz raskopok ellinističeskich usadeb Chersonesa na Geraklejskom poluostrove, *ChersSbor* 9, 225-227.
Ure, A.D. 1944. Red-figure cups with incised and stamped decoration – II, *JHS* 64, 67-77.
Užencev, V.B. 1994. Keramičeskie klejma iz raskopok Kalos Limena 1988-1992 gg. do n.e., in: Toščev (ed.) 1994, 182-184.
Užencev, V.B. 1997. O torgovych svjazjach Rodosa s poselenijami chersonesskoj chory (po keramičeskim klejmam iz raskopok Kalos Limena), in: *Chersones v antičnom mire. Istoriko-archeologičeskij aspekt. Tezisy dokladov meždunarodnoj naučnoj konferencii*. Sevastopol' 1997, 117-120.
Užencev, V.B. 2002. *Kalos Limen u IV st. do n.e. – II st. n.e.* (Abstract of the PhD thesis). Kiev.

Užencev, V.B. & V.Ju. Juročkin. 1998. Amfory s voronkovidnym gorlom iz Pričernomor'ja, *ChersSbor* 9, 100-109.

Vaag, L.E., V. Nørskov & J. Lund with M.K. Schaldemose. 2002. *The Maussolleion at Halikarnassos, Reports of the Danish Archaeological Expedition to Bodrum.* Vol. 7. *The Pottery, Ceramic material and other finds from selected contexts*. Aarhus.

Vallois, R. 1923. *Les portiques au sud du Hiéron. Première partie. Le portique de Philippe* (Exploration archéologique de Délos, 7.1). Paris.

Vanderpool, E., J.R. McCredie & A. Steinberg. 1962. Koroni: A Ptolemaic Camp on the East Coast of Attica, *Hesperia* 31, 26-61.

Vanderpool, E., J.R. McCredie & A. Steinberg. 1964. Koroni: The date of the camp and the pottery, *Hesperia* 33, 69-75.

Varoucha-Christodoulopoulou, E. 1953-1954. Συμβολη εις τον Χρεμωνιδειον πολεμον 266/5-263/2 π. Χ., *AEphem* 1953-1954, 321-349.

Velkov, V. (ed.) 1980. *Nesebre*. Vol. 2. Sofia.

Vinogradov, Ju.G. 1985. [Discussion], in: O.D. Lordkipanidze (ed.), *Pričernomor'e v epochu ellinizma. Materialy III Vsesojuznogo Simpoziuma po drevnej istorii Pričernomor'ja, Cchaltubo 1982*. Tbilisi 1985, 643-647.

Vinogradov Ju.G. 1987. Votivnaja nadpis' dočeri carja Skilura iz Pantikapeja i problemy istorii Skifii i Bospora vo II v. do n.e., *VDI* 1, 55-87.

Vinogradov, Ju.G. 1989. *Političeskaja istorija Ol'vijskogo polisa VII – I vv. do n.e. Istoriko-epigrafičeskoe issledovanie.* Moskva.

Vinogradov, J. 1990. *REG* 1990, 548-549, no. 559.

Vinogradov, J.G. & N.A. Onajko. 1975. Ob ekonomičeskich svjazjach Geraklei Pontijskoj s Severnym i Severo-Vostočnym Pričernomor'em v ellinističeskoe vremja, *SovA* 1, 86-93.

Vinogradov, Ju.G. & A.N. Ščeglov. 1990. Obrazovanie territorial'nogo Chersonesskogo gosudarstva, in: Golubcova (ed.) 1990, 310-371.

Vjaz'mitina, M.I. 1962. *Zolota Balka. Poselennja sarmats'kogo času na Nyžn'omu Dnipri.* Kiev.

Vjaz'mitina, M.I. 1972. *Zolotobalkovskij mogil'nik*. Kiev.

Vnukov, S.Ju. 1988. Širokogorlye svetloglinjanye amfory Severo-Zapadnogo Kryma, *SovA* 3, 198-206.

Vnukov, S.Ju. 2000. Psevdokosskie amfory Pričernomor'ja, *RosA* 4, 54-63.

Vnukov, S.Ju. 2001. The north-western Crimea: an historical-archaeological essay, in: G. Tsetskhladze (ed.), *North Pontic archaeology: recent discoveries and studies* (Colloquia Pontica, 6). Leiden-Boston-Köln, 149-175.

Vnukov, S.Ju. & S.A. Kovalenko. 1998. Megarskie čaši s gorodišča Kara-Tobe, in: *Ellinističeskaja i rimskaja keramika v Severnom Pričernomor'e*, 1 (TrudyGIM, 102), 61-76.

Voegtli, H. 1993. *Die Fundmünzen aus der Stadtgrabung von Pergamon* (Pergamenische Forschungen, 8). Berlin-New York.

Vogeikoff-Brogan, N. 2000. Late Hellenistic pottery in Athens. A New Deposit and Further Thoughts on the Association of Pottery and Societal Change, *Hesperia* 69, 293-333.

Volčkova, N.I. 1956. Klad antičnych monet iz Kamenki-Dneprovskoj, *KSIA AN USSR* 6, 55-56.

Vysotskaja, T.N. 1989. *Skifskie gorodišča*. Simferopol.

Vysotskaja, T.N. 1994. *Ust'-Al'minskoe gorodišče i nekropol'*. Kiev.

Waddington, W., E. Babelon & Th. Reinach. 1925. *Recueil général des monnais grecques d'Asie Mineure* I.1 *Pont et Paphlagonie* (2nd ed.). Paris.

Walbank, F.W. 1979. *A Historical Commentary on Polybius*, Vol. 3. Oxford.

Walbank, F.W. 1984. Macedonia and Greece, in: F.W. Walbank, A.E. Astin, M.W. Frederiksen & R.M. Ogilvie (eds.), *Cambridge Ancient History.* VII.1. *The Hellenistic World.* Cambridge 1984, 221-256.

Walbank, M.E.H. 1997. The foundation and planning of early Roman Corinth, *JRA* 10, 95-130.

Walbank, M.E.H. 2002. What's in a Name? Corinth under the Flavians, *ZPE* 139, 251-264.

Wallace, M.B. 1986. Progress in Measuring Amphora Capacities, in: Empereur & Garlan (eds.) 1986, 87-94.

Wallace Matheson, P.M. & M.B. Wallace. 1982. Some Rhodian Amphora Capacities, *Hesperia* 51, 293-320.

Wąsowicz, A. 1975. *Olbia Pontique et son territoire*. Paris.

Weinberg, G.D. 1965. The Glass Vessels from the Antikythera Wreck, in: G.D. Weinberg, V.R. Grace & G.R Edwards, *The Antikythera Shipwreck Reconsidered.* (Transactions of the American Philosophical Society, 55.3). Philadelphia 1965, 30-39.

Weinberg, G.D. & M.C. McClellan. 1992. *Glass Vessels in Ancient Greece. Their history illustrated from the collection of the National Archaeological Museum, Athens* (Publications of the Archaeologikon Deltion, 47). Athens.

Whitbread, I.K. 1995a. We are what we study: Problems of communication and collaboration between ceramologists and archaeological scientists, in: A. Lindahl & O. Stilborg (eds.), *The aim of laboratory analyses of ceramics in archaeology, April 7-9 in Lund, Sweden.* Stockholm 1995, 91-100.

Whitbread, I.K. 1995b. *Greek transport amphorae: A petrological and archaeological study*. Athens.

Williams, C.K. II. 1978. Corinth 1977: Forum Southwest, *Hesperia* 47, 1-39.

Williams, Ch. & J. Fisher. 1971. Corinth, 1970: Forum Area, *Hesperia* 40, 1-51.

Wiseman, J. 1979. Corinth and Rome I: 223 BC – AD 267, *ANRW* 7.1, 438-548.

Wright, B.G. 1997. Jewish ritual baths – interpreting the digs and the texts: Some issues in the social history of Second Temple Judaism, in: N.A. Silberman & D. Small (eds.), *The archaeology of Israel. Constructing the past, interpreting the present.* Sheffield 1997, 190-214.

Wroth, W. 1889. *British Museum. Catalogue of the Coins. Pontus, Paphlagonia, Bithynia, and the Kingdom of Bosporus*. London.

Young, R.S. 1951. An industrial district of ancient Athens, *Hesperia* 20, 135-288.

Zaginajlo, A.G. 1967. Visuncovskij klad serebrjanych monet Istrii, najdennyj v 1951 godu (k voprosu o rannich vypuskach istrijskogo serebra), *Zapiski Odesskogo archeologičeskogo obščestva* 2 (35), 60-75.

Zajcev, Ju.P. 1994. Issledovanija Južnogo dvorca Neapolja Skifskogo, in: V.A. Kutajsov et al. (eds.), *Archeologičeskie issledovanija v Krymu, 1993 god.* Simferopol 1994, 111-119.

Zajcev, Ju.P. 1995. Chronologija Neapolja Skifskogo, in: G.N. Toščev, G.I. Šapovalova & S.I. Andruch (eds.), *Drevnosti stepnogo Pričernomor'ja i Kryma*. 5. Zaporož'e, 67-90.

Zajcev, Ju.P. 1999. Skilur i ego carstvo (Novye otkrytija i novye problemy), *VDI* 2, 1999, 127-148.

Zajcev Ju.P. 2001. Mavzolej carja Skilura: fakty i kommentarii, in: I.I. Guščina & D.V. Žuravlev (eds.), *Pozdnie skify Kryma* (Trudy GM, 118). Moskva 2001, 13-54.

Zajcev, Ju.P. 2003. *Neapol' Skifskij (II v. do n.e. – III v. n.e.)*. Simferopol.

Zajcev, Ju.P. & A.E. Puzdrovskij. 1994. Neapol' Skifskij v epochu diofantovych vojn, in: Kutajsov (ed.) 1994, 217-237.

Zajceva, K.I. 1984. Ol'vijskie kubki i kanfary VI-IV vv. do n.e., *TrudyErmit* 24, 110-124.

Zaytsev Yu.P. 2002. Skiluros and His Realm: New Discoveries and New Problems, *Ancient Civilizations* 7.3-4, 239-271.

Zaytsev Yu.P. 2002a. Light and fire in the Palace of Scythian King Skilur, in: Zhuravlev D.V. (ed.) 2002, 61-74.

Zeest, I.B. 1960. *Keramičeskaja tara Bospora* (MatIsslA, 83). Moskva.

Zeest I.B. & I.D. Marčenko. 1962. Nekotorye tipy tolstostennoj keramiki iz Pantikapeja, *MatIsslA* 103, 149-165.

Zhuravlev D. 2000. Terra sigillata and red slip from the late Scythian necropoleis of the south-western Crimea, 1st-3rd centuries AD, *ReiCretActa* 36, 151-160.

Zhuravlev D.V. (ed.) 2002. *Fire, Light and Light Equipment in the Graeco-Roman World* (BAR Intern. Series, 1019). Oxford.

Zin'ko, V.N. 2003. Nekropol' sel'skogo poselenija bliz Mirmekija, *Bosporskie issledovanija* 3, Simferopol', 168-197.

Zograf, A.N. 1927. Dve gruppy Chersonesskich monet s zaimstvovannymi tipami, *Izvestija Gosudarstvennoj akademii istorii material'noj kul'tury* 5, 379-397.

Zograf, A.N. 1940. Nachodki pontijskich monet mitridatovskogo vremeni v Ol'vii, in: *Ol'vija*. I. Kiev, 293-299.

Zograf, A.N. 1952. Opisanie monet iz raskopok Tiritaki i Mirmekija 1935-1940 gg., *MatIsslA* 25, 363-386.

Zolotarev, M.I. 2002. Archeologičeskaja periodizacija pamjatnikov Chersonesa Tavričeskogo, *VDI* 2, 67-72.

Zolotarev, M.I. & E.Ja. Turovskij. 1990. K istorii antičnych sel'skich usadeb Chersonesa na Geraklejskom poluostrove, in: *Drevnee Pričernomor'e. Materialy I Vsesojuznych čtenij pamjati professora P.O. Karyškovskogo*. Odessa 1990, 71-89.

Zolotarev M.I., S.V. Ušakov & D.Ju. Korobkov. 1991. *Otčet o raskopkach v Severo-Vostočnom rajone Chersonesa v 1991 godu*. Archives of the National Preserve „Tauric Chersonesos", file 3079.

Zuev, V.Ju. et al. (eds.) 2001. *Bosporskij fenomen: kolonizacija regiona, formirovanie polisov, obrazovanie gosudarstva*. 2. St Peterburg.

Živkova, L. 1976. *Kazanlykskaja grobnica*. Moskva.

Abbreviations

Agora IV - Howland, R. 1958. *Greek lamps and their survivals* (The Athenian Agora, 4). Princeton.

Agora V - Robinson, H.S. 1959. *Pottery of the Roman period. Chronology* (The Athenian Agora, 5). Princeton.

Agora XII - Sparkes, B. & L. Talcott. 1970. *Black and Plain Pottery of the 6th, 5th and 4th centuries B.C.* (The Athenian Agora, 12). Princeton.

Agora XXIX - Rotroff, S.I. 1997. *Hellenistic Pottery. Athenian and Imported Wheelmade Table Ware and Related Material* (The Athenian Agora, 29). Princeton.

Agora XXV - Lang, M.L. 1990. *Ostraka* (The Athenian Agora, 25). Princeton.

Agora XXVI - Kroll, J. 1993. *The Greek Coins* (The Athenian Agora, 26). Princeton.

Agora XXVII - Townsend, R. 1995. *The East Side of the Agora: The remains beneath the Stoa of Attalos* (The Athenian Agora, 27). Princeton

Agora XXX - Moore, M.B. 1997. *Attic red-figured and white-ground pottery* (The Athenian Agora, 30). Princeton.

AMA - *Antičnyj mir i archeologija,* Saratov.

AMGS - *Antike Münzen und geschnittene Steine*

BMC - *British Museum Coins (Catalogue of)*.

ChersSbor - *Chersonesskij Sbornik*. Sevastopol.

Corinth XVIII.1 - Pemberton, E.G. 1989. *The Sanctuary of Demeter and Kore. The Greek pottery* (Corinth, 18.1). Princeton.

Eretria II - Metzger, I.R. 1969. *Die hellenistische Keramik in Eretria* (Eretria. Ausgrabungen und Forschungen, 2). Bern.

Eretria X - Reber, K. 1998. *Die klassische und hellenistische Wohnhäuser in Westquartier* (Eretria. Ausgrabungen und Forschungen, 10). Lausanne.

Eretria XII - Mekacher, N., E. Schönenberger & M. Palaczyk. 2003. *Die matrizengeformten Terrakoten der zweiten Hälfte des 4. und des 3. Jahrhunderts v. Chr. Die hellenistischen Amphorenstempel aus Eretria* (Eretria. Ausgrabungen und Forschungen, 12). Lausanne.

Halikarnassos VII - L.E. Vaag, V. Nørskov & J. Lund with M.K. Schaldemose. 2002. *The Maussolleion at Halikarnassos, Reports of the Danish Archaeological Expedition to Bodrum.* Vol. 7. *The Pottery, Ceramic material and other finds from selected contexts*. Aarhus.

IAK -	*Izvestija imperatorskoj Archeologičeskoj Komissii*. St Peterburg
IGCH -	*Inventory of Greek Coin Hoards* = Thompson, M., O. Mørkholm & C.M. Kraay (eds.) 1973. *An Inventory of Greek Coin Hoards*. New York.
IOSPE -	B. Latyschev. 1885-1916. *Inscriptiones antique orae septentrionalis Ponti Euxini Graecae et Latinae*. Petropolis.
NO -	T.N. Knipovič & E.I. Levi (eds.), 1968. *Nadpisi Ol'vii (1917-1965)*. Leningrad.
RG -	*Recueil Général* = Babelon, E., Th. Reinach & W.H. Waddington. 1904. *Recueil général des monnaies grecques d'Asie Mineure*, I. Paris.
SNG -	*Sylloge Nummorum Graecorum*.
TrudyErmit -	*Trudy Gosudarstvennogo Ermitaža.* Leningrad-St Petersburg.
TruduGIM -	*Trudy Gosudarstvennogo Istoričeskogo Muzeja.* Moskva.

Index of places and names

Index of names from amphora stamps

The index does not include the names in Tab. 1, p. 88; Tab. 2, p. 89-91; Tab. 2, p. 168-171; Fig. 5, p. 185; Tab. 1, p. 265-266.

Index locorum

Contributors

Valeria P. Bylkova
Faculty of History
Kherson State University
ul. 40-let Oktyabrya, 27
73000 Kherson
Ukraine
E-mail: bylkova@yahoo.com

François de Callataÿ
Cabinet des Médailles
Bibliothèque royale de Belgique
4 Boulevard de l' Empereur
B-1000 Bruxelles
Belgium
E-mail: francois.de.callatay@kbr.be

Lise Hannestad
Institute for Anthropology, Archaeology and Linguistics
University of Aarhus
Ndr. Ringgade 1
DK-8000 Århus C
Denmark
E-mail: klalh@hum.au.dk

Jakob Munk Højte
Danish National Research Foundation's
Centre for Black Sea Studies
University of Aarhus
Ndr. Ringgade 1
DK-8000 Århus C
Denmark
E-mail: klajh@hum.au.dk

Valentina V. Krapivina
Institute of Archaeology, Ukrainian
National Academy of Sciences
Geroev Stalingrada av. 12
04211 Kiev
Ukraine
E-mail: krapivin@svitonline.com

Mark Lawall
Department of Classics
366 University College
University of Manitoba
Winnipeg, MB
Canada R3T 2N2
E-mail: lawall@cc.umanitoba.ca

Sergej Ju. Monachov
Dept. of the Ancient World History
The Faculty of History, Auditorium 41
Saratov State University
4 Uchebny corpus
ul. Universitetskaya 59
410027 Saratov
Russia
E-mail: monachsj@mail.ru

Valentina I. Mordvinceva
Crimean Branch of the Institute of
Archaeology, Ukrainian National
Academy of Sciences
ul. Yaltinskaya, 2
95007 Simferopol
Crimea, Ukraine
E-mail: v_mordvintseva@yahoo.com

Susan I. Rotroff
Department of Classics
Washington University in St.Louis
One Brookings Drive
Campus Box 1050
St. Louis, Mo. 63130
USA
E-mail: srotroff@artsci.wustl.edu

Vladimir F. Stolba
Danish National Research Foundation's
Centre for Black Sea Studies
University of Aarhus
Ndr. Ringgade 1
DK-8000 Århus C
Denmark
E-mail: klavs@hum.au.dk

Jurij P. Zajcev
Crimean Branch of the Institute of
Archaeology, Ukrainian National
Academy of Sciences
ul. Yaltinskaya, 2
95007 Simferopol
Crimea, Ukraine
E-mail: skilur46@mail.ru

Miron I. Zolotarev
Crimean Branch of the Institute of
Archaeology, Ukrainian National
Academy of Sciences
ul. Yaltinskaya, 2
95007 Simferopol
Crimea, Ukraine